

A guide to uniform  
**COST AND FINANCIAL ACCOUNTING**  
for poultry processors



Agriculture Handbook No. 213  
Economic Research Service  
Marketing Economics Division  
UNITED STATES DEPARTMENT OF AGRICULTURE

# **A GUIDE TO UNIFORM COST AND FINANCIAL ACCOUNTING FOR POULTRY PROCESSORS**

**Part I. Cost Reporting on a Plant-Wide Basis  
page 5**

**Part II. Cost Reporting on a Department Basis  
page 18**

**Part III. Cost Reporting on a Budgetary Basis  
page 44**

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## DEVELOPMENT AND USE OF THIS GUIDE

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Poultry processing during the past 15 to 20 years has grown enormously. It was formerly a comparatively small industry made up of thousands of small companies located in hamlets, towns, and farm market areas of large cities. Now it is a multimillion dollar industry composed, in the main, of approximately 600 highly mechanized commercial plants located mostly in major poultry producing areas. These plants are capable of processing well over  $1\frac{1}{2}$  billion chicken broilers and many millions of turkeys and fowl per year. Some plants specialize in one type of poultry while others process all types that are of commercial importance. During this phenomenal growth, the type of broiler processed has changed from cockerels and culls from laying flocks to specialized broilers slaughtered at 8 to 10 weeks of age with a live weight of 3 to 4 pounds. The type of equipment now used makes possible the mass handling of up to 10,000 broilers per hour with the savings usually resulting from large-volume operations.

During many of the early years of this expansion period, prices were sufficiently high and margins wide enough so that errors in judgment by management and inefficiencies from other causes often did not threaten the survival of a firm. However, in more recent years, increasing competition among plants in different growing areas and among plants in the same areas has forced prices and margins down. Currently, net returns are measured in small fractions of a cent per pound. Thus, small errors in managerial judgment and inefficiencies in operation can be most serious, even disastrous.

To avoid such occurrences, a few owners and plant managers have insisted on the development of detailed recordkeeping systems. In the equipment field, highly trained engineers were responsible for the development of equipment now in use. In the feed field, highly trained experts developed high conversion feed mixes as well as financing programs, and in the breeder stock field, experts, through much research, developed strains of broilers capable of growing to marketable size in 8 to 10 weeks on a minimum of feed. But recordkeeping, with some notable exceptions, often has been in the hands of inadequately trained in-plant personnel or left to outside local accountants who prepared statements periodically, generally for tax purposes. In a few of the larger and more successful firms, as noted above, highly trained accountants were brought in to set up a system of accounts and managerial reports fully adequate to keep management advised and aware of operating efficiencies as well as difficulties. Unfortunately, this particular area was considered by many companies as less important than operational techniques and was permitted to

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1/ The authors of this introductory section supervised the contract with Haskins & Sells under which this Guide was developed and tested by the accounting firm. All other parts of the Guide were prepared by personnel of Haskins & Sells.

lag behind growth in other areas. It is probable that this factor has contributed to the failure of many plants.

The U. S. Department of Agriculture in its marketing research work with poultry processors became aware of these deficiencies in recordkeeping in the early fifties, while making detailed cost and efficiency studies of the marketing of farm products. To get comparable, standardized cost data, it was often necessary for both Department and plant personnel to spend much time and effort in going through voluminous files for detailed records of plant operations, putting those records together in usable form, and preparing reports for industry, Congressional committees, and others who might be interested. These studies and reports were the responsibility of the Department under the Research and Marketing Act approved by Congress in 1946. These cost and efficiency studies provide industry, the Congress, and the public with information on how much it costs to produce and market farm products and with closely related information useful in the making of decisions affecting the marketing of farm products.

In 1956 and 1957 Department officials discussed the design of a uniform cost system for poultry processors with members of poultry trade associations and processors in several producing areas. It was almost universally agreed that a uniform cost system would be of substantial benefit to the industry and also would enable the Department to put its cost and efficiency studies on a more current and accurate basis. In 1957, the Department contracted with Haskins & Sells, certified public accountants, to design and test a cost and financial accounting system for poultry processors. This firm assigned a group of its specialists to study the industry, interview processors, observe plants in operation, and determine cost centers. A cost system was designed, printed, and reviewed by several processors. A revised draft of the Guide, incorporating recommendations made by industry, was prepared. This revision provided for three alternative systems, one for small plants interested only in overall plant costs, another for larger plants interested in a departmental breakdown of costs, and a third for those plants also interested in budgetary control. Fundamentally, all three systems are the same, but the departmental and budgetary systems go into more detail, providing management with tools enabling them to maintain departmental control and, in the budgetary system, goals toward which to work.

To determine further the adequacy of the system, it was tested experimentally for a year in several plants of varying sizes and plants specializing in different types of products, located in the more important producing areas. This trial, under the close supervision of Haskins & Sells, called for quarterly operating reports from the cooperating plants. These reports, and personal conferences with the firms using the new accounting system, provided Haskins & Sells with the necessary knowledge of the strengths and weaknesses of the system. Again, the Department made slight modifications before publication in this Guide.

The reports made by the several poultry processors testing the systems permit weak points in a plant's operations to be detected. Low productivity, low yield, high unit labor costs, and high overhead, often previously unnoticed or undocumented are among the important cost items to be brought to management's attention, upon adoption of the system.

Some of the participating plants, to obtain maximum benefits from the new system, not only made changes in the composition of their records, but also made many mechanical adjustments or bought additional equipment. These changes included scales for weighing birds at the plant, automatic weighing of birds channeled into the cutting department, written reports by plant foremen and others showing duration of line stoppages and reasons therefor, and other alterations of a more minor nature. The deficiencies found in plant operations, formerly overlooked, convinced plant managers of the necessity for adequate record control in order to maintain efficiency.

Use of the accounting systems set forth in this Guide require no preliminary explanation. Readers who have no more than a rudimentary knowledge of bookkeeping or accounting probably will have no difficulty with Part I, which explains the system designed for a relatively small plant. Most readers of Parts II and III will find their knowledge of accounting principles of considerable aid in understanding the systems and procedures designed for the larger, departmentalized plant. However, the entire Guide has been written with as little technical language as the subject matter permits.

Plant accounting personnel, after studying this Guide and before deciding whether or not to adopt the recommended accounting procedures, may wish to study a complete set of their plant records covering a week or a month, that show the full movement of birds from pickup at the farm until arrival at consumer markets. They can go through the manual step by step, determining whether present plant records are available or adequate to fulfill the requirements of the system. If records are not available or adequate, the accountants should determine the changes necessary for conformity with the Guide and take the matter up with management. If management considers the changes advisable, the new system then can be put into actual use.

Reports, in addition to those suggested in the manual, may be prepared for management, if desired, using data compiled from plant records. There may be daily reports, individual producer reports, condemnation reports, and about as many others as management deems necessary.

### Voluntary Reporting

One of the important features of the uniform cost system is the possibility it affords for developing an industry-wide cost comparison program. This would enable processors to report to the U. S. Department of Agriculture their quarterly operational costs on forms provided by the Department. These plant reports, in turn, would be used by the Department only for the purpose of preparing cost analyses and cost comparison reports to and for the poultry industry. Industry reports could be published quarterly showing averages of per-unit costs, yields, productivity, and other pertinent information. Plants would be grouped according to size, type of end product (turkeys, chicken broilers, ice-pack, frozen, etc.), organizational structure, and geographic area. Managers of the plants within each group would then be able to compare each of their individual cost items, and other operational data, with averages of the same items for comparable plants in their own area as well as in other areas. In making comparisons with plants in other areas, adjustments for differences in wage rates and prices of other production inputs could be

facilitated by including information on these prices and rates. The reports published by the Department could also carry commentaries on any unusual features which might appear on analyses of the data.

While reporting would be voluntary on the part of poultry processors, past experience on other commodities with similar cost reporting programs indicates that a high degree of participation can be achieved and that the results of the programs are beneficial to all participants. All individual plant reports, of course, would be treated as confidential and used in groups only.

## CONTENTS

	<u>Page</u>
DEVELOPMENT AND USE OF THIS GUIDE .....	iii
INTRODUCTION .....	1
Objectives .....	1
Complex Nature of Industry .....	1
Basic Concept of System .....	2
Method of Presentation .....	2
Reports .....	3
Integration with Financial Accounting .....	4
General .....	4
PART I. <u>COST REPORTING ON A PLANT-WIDE BASIS</u> .....	5
PART II. <u>COST REPORTING ON A DEPARTMENT BASIS</u> .....	18
PART III. <u>COST REPORTING ON A BUDGETARY BASIS</u> .....	44

## APPENDIXES

1. Chart of Accounts and Account Codes .....	100
2. Definitions and Descriptions of Accounts .....	111
3. Alternative Determination of Line-Hours Operated, by Bird Types and Weight Categories .....	117
4. Profitability Comparison .....	119
5. Profitability Determinations for Various Bird Parts .....	121
6. Treatment of Special Accounting Problems .....	124
7. Marketing and Distribution Costs .....	135
8. Table of Recommended Bird Categories .....	136

# A guide to uniform COST AND FINANCIAL ACCOUNTING for poultry processors

## INTRODUCTION

### OBJECTIVES

The immediate purpose of this Guide is to furnish a means of measuring plant costs and efficiencies. These ends may be attained by providing simple procedures and records which will furnish poultry plant managers a continuing flow of essential information. The systems are suitable for most commercial poultry processing plants and are sufficiently flexible to meet specific needs of individual plants.

Other objectives are of equal or greater importance. Operating reports for the use of management personnel must reflect plant occurrences in a meaningful manner. For example, a report showing an increase in cost per pound is not sufficient; the report must be accompanied by some indication of the causes and propriety of the increase. Reports must therefore enable the reader to locate problem areas with a minimum of analysis and should, when possible, suggest corrective action. Reports must be accurate to the degree that commands management's confidence.

The accounting systems and the internal reports illustrated will provide accurate unit costs for all operations - hauling birds from farms to plants; in-plant operations such as dressing, eviscerating, and packing; distribution of the finished product, etc. Unit costs can be determined accurately and in the detail desired. With adequate and uniform records of the type described, plant managers can determine their strong and weak areas of costs and efficiencies and can, consequently, make better and more timely decisions leading to operating improvements.

Finally, the recommended procedures provide bases for uniform industry-wide information, which will facilitate research by the United States Department of Agriculture and other interested research agencies.

### COMPLEX NATURE OF INDUSTRY

Poultry processing plants range in size from those employing only a few persons to those employing hundreds; they range from single proprietorships to large, diversified, multiplant corporations with complex managerial and capital structures. Product lines vary from a single type of poultry in limited weight categories to several types of poultry in a wide variety of weight categories.



In a few companies, poultry processing is a small segment of the business; in others, it is the primary operation.

No longer does the processing of poultry include only the simple operations of killing, dressing, and eviscerating. Today, many companies are engaged in additional related activities, including preparation of chicken pies, precooked poultry, and the like. In earlier days, most of the nonedible elements removed from the birds during processing were cast aside as waste. Under today's competitive conditions, these nonedible items often are sold or recovered by processing them into fertilizer, poultry feed, dog and cat food, etc. Some companies operate facilities for processing these nonedible elements.

The variety of plant sizes and organizational structures in the industry and the variety of conditions under which poultry and related products are processed point up the complexities involved in designing a uniform system of cost accounting and reporting.

### BASIC CONCEPT OF SYSTEM

The underlying concept of the cost system is to produce data which will accurately reflect plant operations so that reports based upon these data will be useful to management. The reports suggested have a wide range of detail.

As a minimum, the common unit of cost measurement for any poultry processing plant is the "bird." Further segregations of costs are made in the direction of costs per pound and by type and weight categories of birds--a technique that enables determination of optimum weights for specific end-products. Further separations of costs, as appropriate, are made between processing departments. This concept represents a major departure from the prevalent practice in the industry, that is, the measurement of costs only in terms of pounds produced. A table of recommended weight categories, ready-to-cook basis, for each kind and class of poultry is shown in Appendix 8.

To determine accurately the labor and overhead costs by type of bird and weight category, such costs must be related to birds through a common denominator. The common denominator suggested in this Guide is time (hours): expenditures are so many dollars each hour; a certain number of birds are processed each hour.

An equally important concept of the system (in the larger processing plants where historical costs are inadequate) is the measurement of actual results in terms of a budget. The pattern of the budget contains the flexibility which permits ready adaptation to changes in plant operation.

### METHOD OF PRESENTATION

Three illustrations are used to present the suggested accounting procedures. The first two illustrate methods of accumulating cost information and differ primarily in the amount of detail; the third presents a further expansion of cost information and, in addition, includes a budgetary procedure. The reports suggested in the three illustrations range from the simplest type

required for a small plant to the detailed cost reports, with budgetary control features, for a large, diversified, integrated processing company.

No provision has been made for an accounting or reporting system for plants where processing is performed manually. Methods of operations in such plants may be as numerous as the plants involved and a considerable variety of reports would be required. Obviously, the design and development of a uniform accounting and reporting system to satisfy these conditions would be impractical. Furthermore, in a very small firm the need for internal accounting controls may be less because the owner-operator usually is more intimately acquainted with day-to-day operations. The cost system outlined in this Guide assumes that the smaller commercial plants employ some degree of mechanization and some semblance of conveyor-line techniques.

Basically, the Guide is segregated into three sections:

Part I illustrates an elementary cost reporting system which includes a weekly and monthly measurement of each of the three basic cost elements - material, labor, and overhead - for each category of bird processed during the reporting period.

Part II illustrates an advanced system which measures the three basic cost elements, as in Part I, but also carries the cost measurement in another direction, namely, by departments.

Part III illustrates an extensively expanded cost reporting system and adds a budgetary procedure.

The budgetary procedure which differs materially from Part I and Part II, is based upon the concept of cost measurement known as accounting by areas of responsibility. The budgetary procedure also incorporates the measurement of actual results in terms of standards of performance. In addition, predetermined costs, which are part of the procedure, facilitate cost estimating of contemplated new products.

The three parts of this Guide are designed to meet most problems of any company. The majority of poultry processors will find that the procedures outlined in Part I or Part II can, with adaptations, be used for their purposes. However, such companies should review Part III, as some features in the budgetary procedure may be of special significance or advantage to them. Any of the three systems described can be integrated with the accounting requirements of any company.

Changing conditions, such as plant expansion, diversification of process or products, and the addition of related product lines, permit a progressive transition from an elementary to a more advanced type of system without destroying or dropping the basic features of the system already employed.

## REPORTS

The internal reports developed under Parts I, II, and III will provide plant management with operating cost information which, when used properly,

will aid in making sound management decisions. For example, certain poultry products, such as chicken livers and necks, are priced primarily on the basis of supply and demand rather than on the basis of actual costs. Nevertheless, if costs information is not accurate and also relevant, a proper decision cannot be made between selling the product in the processed state or diverting it for processing into an entirely different end-product.

As a further example of the use of reports developed in this Guide, some reports show production data which include related costs and product yield percentages. Yield, of course, is an area which demands continuous attention. Constant review of these reports may show areas where a lighter category of live-weight bird may produce the desired weight category of processed bird. In plants where birds are cut up for packaged parts, selection of processed birds within limited weight tolerances is particularly important.

These two simple examples indicate in brief some practical uses which can be made of the information available. Critical analysis of available information developed by either type of system will reveal other uses for the data and point to areas where efficiency can be improved. Special reports may be prepared to analyze specific operating problems and reports may be dropped when they no longer serve a useful purpose.

#### INTEGRATION WITH FINANCIAL ACCOUNTING

To obtain a degree of uniformity in the industry and to illustrate the relation between the three cost accounting procedures and financial accounting, a chart of accounts and definitions are contained in Appendixes 1 and 2. The number and pattern of financial accounts depends on management requirements as well as on the size or diversification of the company. The chart and definitions provide the detail required by a typical company. Except as they relate to uniformity of cost segregations, the financial accounting procedures are not described in detail.

#### GENERAL

The systems have been designed for reporting to management weekly and monthly. Some companies may require daily reporting of some production information and of some cost information. Some companies use an accounting period other than a month, such as a four-week period. Each system can be adapted easily for such variations in requirements.

The Guide does not go into the detail normally found in an elementary accounting textbook. At least a general knowledge of elementary accounting is assumed. The budgetary system assumes a fairly comprehensive knowledge of accounting techniques.

The illustrations used contain purely hypothetical data and do not represent results of operations in any plant.

Finally, the Guide is intended as an aid for supplementing or refining current accounting procedures as performed by company personnel or outside accountants.

## PART I

### COST REPORTING ON A PLANT-WIDE BASIS

#### CONTENTS

	<u>Page</u>
INTRODUCTION .....	7
STATEMENT OF INCOME .....	7
Report Content .....	7
Report Preparation .....	8
Total Column .....	8
Broilers, etc. Column .....	8
Sales .....	8
Cost of Sales .....	8
Gross Profit .....	8
PRODUCTION AND COST REPORT .....	8
Report Content .....	8
Production .....	8
Processing Costs .....	11
Cents Per Pound .....	11
Report Preparation .....	11
Production Section .....	11
Line-Hours Operated .....	11
Speed Per Line-Hour .....	11
Bird Capacity .....	11
Birds In .....	11
Productivity .....	12
Birds Out .....	12
Bird Yield .....	12
Total Pounds In .....	12
Equivalent Pounds In .....	12
Pounds Out (Whole Birds) .....	12
Processing Yield .....	12
Average Weight .....	12
Processing Costs Section .....	12
Labor .....	12
Overhead .....	13
Materials .....	13
Rates .....	13
Cents Per Pound Section .....	13

	<u>Page</u>
ALTERNATIVES AND EXCEPTIONS .....	14
Salvaged Parts .....	14
Condemnation Losses .....	14
Run-of-Farm Purchases .....	15
UTILIZING REPORT DATA .....	16
CONCLUSION .....	17

#### SPECIMEN REPORTS AND WORKSHEETS

##### Figure

1--Statement of Income .....	9
2--Production and Cost Report - Monthly.....	10
3--Weekly Progress Charts .....	17

## PART I

### COST REPORTING ON A PLANT-WIDE BASIS

#### INTRODUCTION

In any industry, owners and managers of smaller plants are usually closely associated with day-to-day plant operations. As a result, they are in a position to exercise a considerable degree of control with a minimum of formalized cost reporting. Certain basic data regarding production and costs, however, are considered essential to the proper management of all plants. The absence of such information places operators at a disadvantage in establishing prices and in timely recognition of excessive costs or losses, and their causes.

This part of the Guide outlines the minimum, but essential, elements of production and cost reporting for a smaller plant. Provision is made for a conventional Statement of Income to be supported by monthly and weekly production and Costs Reports summarizing material, labor, and overhead in total and for each category of bird processed during the period.

The illustrative reports have been prepared on the assumption that a particular plant has one conveyor line usually running one shift. The plant dresses and eviscerates broilers and hens of a limited number of weight categories. All production is shipped in ice-pack containers. In addition, plant control of the source of supply of live birds has been assumed and thus live birds are purchased within predetermined weight categories. This type of purchasing arrangement is in contrast to the "run of farm" method which is also discussed later in this Guide.

#### STATEMENT OF INCOME

Figure 1 illustrates a conventional Statement of Income in summary form. This statement, together with a Balance Sheet, would represent the basic financial reports of a plant or company.

#### REPORT CONTENT

This report summarizes sales and operating results for the period both as to total results and as to the gross profit contribution of each of the major categories of birds processed and sold.

## REPORT PREPARATION

This report is prepared using data from the following sources:

### Total Column

Sales, cost of sales, expense, and net income figures for total plant operations are taken from the plant's books of account classified according to the chart of accounts outlined in Appendix 1 to this Guide. The degree of account classifications to be adopted depends, of course, upon the needs peculiar to the plant concerned. Similarly, the breakdown of sales and of cost and expense data on the statement can be varied depending upon the circumstances.

### Broilers, etc. Columns

Sales. Figures are taken from sales accounts in the general ledger for each of the major categories of birds sold or from supplemental sales records which agree in total with the general ledger sales account.

Cost of Sales. Amounts for material, labor, and overhead come from the Production and Cost Report discussed later. Amounts for inventories come from the general ledger or supplemental records agreeing with the general ledger inventory account. Plants which operate cold storage facilities as contrasted to those which process and ship each day's receipts of live birds that same day, will of course have inventories to account for.

Gross Profit. Figures are computed by subtraction.

## PRODUCTION AND COST REPORT

Figure 2 illustrates a Production and Cost Report for a month. This report supplements the monthly Statement of Income and permits causes of fluctuations in production costs to be more readily determined in terms that indicate the corrective action required.

## REPORT CONTENT

The report provides three essential types of data:

### Production

This section of the report covers the level of production activity, processing productivity, and yields. These data are reported both in total for the plant and by categories of birds and weights processed. Bird and weight categories should be preestablished and continued in use from period to period for comparison.

FANCY POULTRY CO.  
STATEMENT OF INCOME  
FOR THE MONTH OF MARCH, 19    

	.....COMBINED.....	% TO	.....BROILERS.....	% TO	.....HENS.....	% TO
	AMOUNT	SALES	AMOUNT	SALES	AMOUNT	SALES
SALES - POUNDS .....	<u>237,695</u>		<u>90,463</u>		<u>147,232</u>	
Amount .....	\$63,740.07	100.00	\$27,739.88	100.00	\$36,000.19	100.00
COST OF SALES:						
Inventory - beginning .....	_____		_____		_____	
Production:						
Materials .....	50,616.16		21,664.82		28,951.34	
Labor .....	3,070.37		1,315.87		1,754.50	
Overhead ..	<u>2,926.73</u>		<u>1,254.31</u>		<u>1,672.42</u>	
Total cost of production .....	<u>56,613.26</u>		<u>24,235.00</u>		<u>32,378.26</u>	
Total .....	56,613.26		24,235.00		32,378.26	
Inventory - ending .....	_____		_____		_____	
Net cost of sales .....	<u>56,613.26</u>	<u>88.82</u>	<u>24,235.00</u>	<u>87.37</u>	<u>32,378.26</u>	<u>89.94</u>
GROSS PROFIT .....	<u>7,126.81</u>	<u>11.18</u>	\$ <u>3,504.88</u>	<u>12.63</u>	\$ <u>3,621.93</u>	<u>10.06</u>
SELLING EXPENSES .....	2,842.30	4.46				
GENERAL AND ADMINISTRATION EXPENSES .....	<u>2,182.48</u>	<u>3.42</u>				
Total selling and general and administration expenses .....	<u>5,024.78</u>	<u>7.88</u>				
NET PROFIT .....	<u>\$ 2,102.03</u>	<u>3.30</u>				

Figure 1



WEEK March 19 19       
 MONTH       
 PLANT Parker

Fancy Poultry Co.  
 Anywhere, U. S. A.

# PRODUCTION AND COST REPORT

ITEMS	PLANT TOTALS	TYPE BIRD →		Broilers	Heus
		WEIGHT CATEGORY →		2.0 - 2.4	Under 4.0
PRODUCTION:					
LINE-HOURS OPERATED	168			72	96
SPEED PER LINE-HOUR	<div></div>			600	500
BIRD CAPACITY	91 200			43 200	48 000
BIRDS IN	85 990			40 150	45 840
PRODUCTIVITY	94.29 %			92.94 %	95.50 %
BIRDS OUT	82 886			38 306	44 580
BIRD YIELD	96.39 %			95.41 %	97.25 %
TOTAL POUNDS IN	330 865			128 486	202 379
EQUIVALENT POUNDS IN	319 402			122 528	196 814
POUNDS OUT (WHOLE BIRDS)	237 695			90 463	147 232
PROCESSING YIELD	74.42 %			73.79 %	74.81 %
AVERAGE WEIGHT	2.868			2.362	3.303
PROCESSING COSTS:		RATE	PER		
LABOR	\$ 3070.37	\$ 18.276	LINE-HOUR	\$ 1315.87	\$ 1754.50
OVERHEAD	2926.73	17.421	LINE-HOUR	1254.31	1672.42
MATERIALS- BIRDS	48 812.07			20 846.48	27 965.59
ICE	637.02	0.268	100 LBS.	242.44	394.58
PACKING	1 167.07			575.90	591.17
TOTALS	\$56 613.26			\$ 24 235.00	\$ 32 378.26
CENTS PER POUND:					
LABOR	1.292 ¢			1.455 ¢	1.192 ¢
OVERHEAD	1.231 ¢			1.387 ¢	1.136 ¢
BIRDS	20.536 ¢			23.044 ¢	18.993 ¢
ICE	0.268 ¢			0.268 ¢	0.268 ¢
PACKING	0.491 ¢			0.636 ¢	0.402 ¢
TOTAL	23.818 ¢			26.790 ¢	21.991 ¢

Figure 2

## Processing Costs

Processing costs are reported, together with cost per line-hour operation or per 100 pounds of poultry produced.

## Cents Per Pound

Production yields and processing costs are brought together and reduced to cents per pound.

## REPORT PREPARATION

The following is an explanation of the sources of data and content of the Production and Cost Report.

### Production Section

Production information, shown in the report by type of bird and weight category, is obtained from basic records (not illustrated) maintained at appropriate points along the processing line. Information for the "Plant Totals" column is accumulated from the details in the classifications columns, except that total Productivity, Bird Yield, Processing Yield, and Average Weight are calculations based upon other data in the "Plant Totals" column. As a check, the total "Equivalent Pounds In" may be computed by multiplying the total "Pounds In" by the overall "Bird Yield" percentage.

Line-Hours Operated. Time elapsed in processing each classification of bird during the period. The need to make mechanical or operating speed adjustments to the equipment when changing from one classification of bird to another simplifies the segregation of hours. (See Appendix 3 - Alternative Determination of Line-Hours Operated, by Bird Types and Weight Categories.)

Speed Per Line-Hour. The number of eviscerating hangers which should pass a given point in an hour. Because different bird types and sizes require synchronization with manual efforts, and for mechanical or other reasons, processors may alter the conveyor speed. "Normal" speeds for processing each classification of bird should be established to measure operating results between reporting periods.

Bird Capacity. The number of birds which would have been processed if all hangers had been used and no stoppages had occurred during the hours operated. The capacity for each classification is determined by multiplying "Hours Operated" by "Speed Per Line-Hour."

Birds In. The number of birds placed on the dressing hangers. These figures should come from receiving records (not illustrated), and should include adjustments for any live bird inventory.

Productivity. Determined by dividing "Birds In" by "Capacity;" expressed as a percentage.

Birds Out. The number of salable birds taken off the end of the eviscerating line.

Bird Yield. A measure of the number of salable birds processed from the birds placed on the dressing hangers. Bird yield is determined by dividing "Birds Out" by "Birds In" and is expressed as a percentage.

Total Pounds In. Total pounds of live birds placed on the dressing hangers. "Pounds In" expresses "Birds In" in pounds rather than in units and should come from receiving records, adjusted for any live bird inventory.

Equivalent Pounds In. The original live weight of salable processed birds, determined by dividing "Total Pounds In" by "Birds In," the result of which is multiplied by "Birds Out."

Pounds Out (Whole Birds). Actual weight of salable processed whole birds by classification as recorded at the end of the eviscerating line.

Processing Yield. The percentage of original weight remaining on the carcass of the salable processed whole bird. These percentages are obtained by dividing "Pounds Out" by "Equivalent Pounds In."

Average Weight. Determined by dividing the "Pounds Out (Whole Birds)" by the "Birds Out."

### Processing Costs Section

Labor. Obtained from the direct labor accounts in the general ledger and entered in the "Plant Totals" column. This cost is then allocated to bird and weight categories by, first, determining a rate per line-hour and, second, multiplying this rate by the number of line-hours each category was in production.

The amount for labor should be limited to wages paid for straight-time hours worked by production employees. Other related costs (such as overtime premiums, shift premiums, and supervisory salaries) as well as fringe benefit costs (such as group insurance, hospitalization, pension plans, compensation insurance, and the like) should be accumulated in separate accounts and included as part of overhead. Some companies may wish to include all, or part, of these related costs in the category of "labor." In fact, for a number of internal decision-making purposes this method

~~of reporting~~ these costs may be highly useful to management. Some companies may want to report these as a separate item either under labor or overhead. However, for the sake of obtaining uniform information required in research and industry-wide cost studies, as contemplated in the preparation of this guide, all costs other than wages paid for straight-time hours worked by production employees should be excluded from the labor classification.

Overhead. The total of plant overhead accounts in the general ledger; first entered in the "Plant Totals" column and then allocated to bird and weight categories by, first determining a rate per line-hour and, second, multiplying this rate by the number of line-hours each category was in production.

Materials. Costs for birds, ice, and packing materials come from the applicable accounts in the general ledger for entry in the "Plant Totals" column. Bird and packing materials costs by type of bird and weight categories are obtained from supplemental records to the general ledger accounts. Ice costs are distributed to bird and weight categories on the basis of the average cost of ice per hundred pounds of poultry processed (Pounds Out).

Rates. Labor and overhead rates are computed for the monthly Production and Cost Report by dividing the total labor and overhead costs by the total line-hours operated. The labor rate can be similarly computed for the weekly report. Because accounting for overhead weekly is not practical, two alternatives are suggested: (1) continue to use the overhead rate from the previous month's report, or (2) use an estimated overhead rate and compute total overhead cost by multiplying either overhead rate by the total hours operated. The amount of overhead so determined is an estimate of the total overhead costs, but the difference between the actual overhead and the estimated overhead is likely to be small and will be corrected on the monthly report.

The rate for ice is computed by dividing the cost of ice by the hundreds of pounds of birds processed (Pounds Out).

#### Cents Per Pound Section

Costs per pound shown on the bottom section of the report are computed by dividing the various processing costs by Pounds Out (Whole Birds).

## ALTERNATIVES AND EXCEPTIONS

### SALVAGED PARTS

The plant represented in the illustration is assumed to sell damaged birds to outsiders for salvage. Proceeds from such sales should be credited to a miscellaneous sales account.

Other plants may have a salvaging operation. In this event the Production section of the Production and Cost Report should be expanded to provide salvage information by amending the line items on the report as follows:

Equivalent Pounds In. No change.

Salvage Parts (In Pounds). Net pounds of salable parts salvaged.

Pounds Out (Whole Birds). No change.

Pounds Out (Including Salvage). The total of "Pounds Out (Whole Birds)" and "Salvaged Parts (In Pounds)."

Processing Yield. A percentage computed as "Pounds Out (Whole Birds)" divided by "Equivalent Pounds In."

Salvage Yield. A percentage computed as "Salvage Parts (In Pounds)" divided by "Pounds Out (Whole Birds)." Represents the return from rejected birds or an improvement in "Bird Yield."

### CONDEMNATION LOSSES

A measurement of condemnation losses, as distinct from processing losses, may be desired. The Production and Cost Report can be expanded to provide this information. Such an adaptation is incorporated in the Plant Report illustrated in Part II of this Guide.

Some companies purchase live birds, particularly turkeys, on a ready-to-cook weight and grade basis and no payments are made for condemned birds. Nevertheless, bird losses in processing should be measured so that the related labor and overhead costs will not be ignored. In such instances, companies may wish to accumulate production data by lot or flock. The measurement of processing yield by lot or flock may be obtained by reporting and tabulating production information for each lot or flock on a form designed to incorporate the top section of the Production and Cost Report, figure 2. The data thus recorded may then be summarized by bird classification when preparing the Production and Cost Report.

## RUN-OF-FARM PURCHASES

In many cases, plants cannot exercise control over the selection of live birds for processing into predetermined weight categories; rather, purchases must be made on a "run-of-farm" basis. Under these circumstances, the eviscerated birds are usually segregated into weight categories by means of automatic weighing devices.

In preparing the Production and Cost Report, these companies may wish to record production information by flock or by farm, in which case the production and cost information should be listed in columns for each flock or farm. This information should reveal bird and processing yield comparisons and trends of various suppliers. When this type of information is desired, the production and cost report is prepared in the manner previously outlined, using the columns for farm or flock data, rather than type of bird and weight category.

As an alternative, a periodic segregation or summarization can be made by bird types and by ready-to-cook weight categories within bird types. In this case, a different procedure must be followed in preparing the Production and Processing Costs sections of the Production and Cost Report. Total production and expense data for each bird type - broiler, mature chickens, turkeys - are put into one column and additional columns are allotted for the various weight categories for each type. "Total" information is allocated to weight categories as follows:

Birds Out and Pounds Out (Whole Birds). Obtained from information recorded at the automatic weighing station.

Line-Hours Operated. On the basis of "Birds Out." (See Appendix 3 - Alternative Determination of Line-Hours Operated by Bird Types and Weight Categories).

Materials - Birds. On a poundage basis. However, if purchase records show charges by bird types, such as fryers, broilers, and hens, the "Materials - Birds" costs should be charged to these types before allocations are made to weight categories.

Materials - Packing. On a per bird basis unless the accounting records provide for direct charges to weight categories.

Labor and Overhead Costs. On the bases previously described.

When the above procedures are used, the only items on the report between "Speed Per Line-Hour" and "Processing Yield" which have significance by weight categories are "Birds Out" and "Pounds Out (Whole Birds)."

## UTILIZING REPORT DATA

The Production and Cost Report can be a valuable aid in management's continuous function of controlling operations. The report summarizes periodic operating and financial information and relates actual costs to units produced. Areas subject to cost reduction and increased efficiency can be located easily and the effects of control efforts can be determined.

Unsatisfactory costs seldom can be attributed to a single cause. The report separates the causes for out-of-line costs between operating deficiencies and excessive expenditures. The report is arranged so each factor may be compared readily with related factors to suggest corrective action. Each factor covers a separate area of activity or responsibility.

Information on the report can be used in several ways. A critical review of the data on any one report will indicate areas requiring attention. To illustrate, in the monthly report in figure 2 under "Broilers," the productivity and bird yield percentages indicate a need for corrective action, both in utilizing the capacity of the "line" and of reducing the number of rejected birds. The illustration clearly emphasizes the value of accumulating data by classification of bird.

Comparison of consecutive reports will indicate trends, that is, where progress is being made or where trouble areas are developing. The segregation of operating data and cost information facilitates period-to-period comparisons of the same factors with respect to each classification of bird.

Some managers find the review of single reports and the review of comparable data on consecutive reports sufficient. Other management personnel favor presentations in graphic form such as are illustrated in figure 3. The graphs illustrated use a "common" scale of measurement. The vertical scale can be read as a percentage in the case of yields and as cents per hundred pounds in the case of labor and overhead costs. Labor and overhead costs per hundred pounds should drop progressively with, and in some proportion to, increases in bird and processing yields. Thus, by using the common scale in plotting the information in the chart, favorable or unfavorable trends are more clearly disclosed.

Other types of graphs and charts could be illustrated. Additional information could be presented, such as cumulative totals of labor and overhead, overall yield figures with elements as to type, and so on. Graphs and charts are aids in presenting production and cost information.

As experience is gained in the use of these reports, plant managers will become increasingly aware of the significance of the data shown and will establish goals of performance either specifically and objectively or intuitively.

# WEEKLY PROGRESS CHART

*Broilers*

COSTS - Cents per 100 pounds

YIELD - Percent

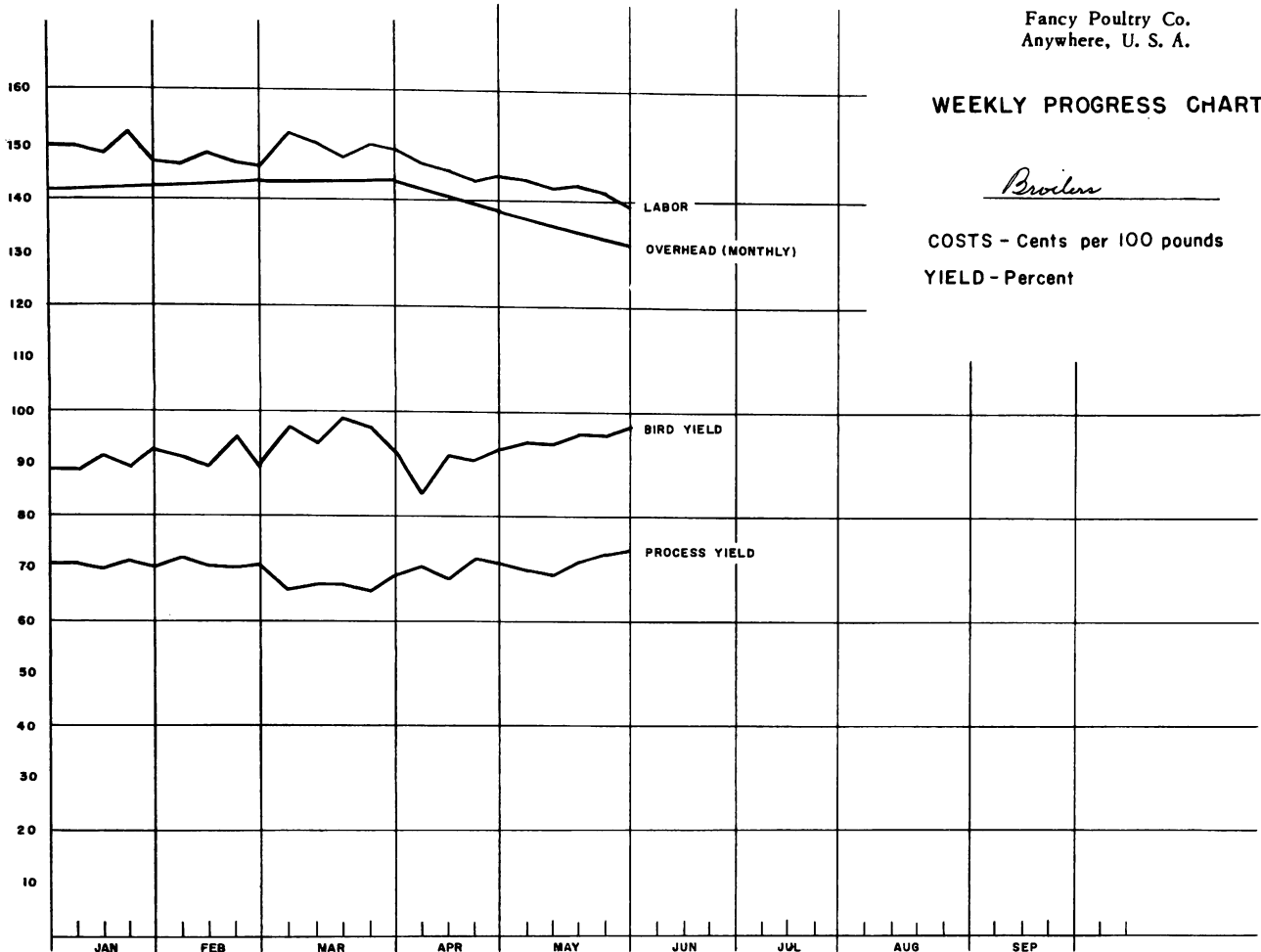


Figure 3

## CONCLUSION

The production and cost reporting system outlined in this Part I of the Guide illustrates a minimum system applicable primarily to operations of the less complex plants. Only simple procedures are involved so that a minimum of clerical effort and cost will produce results. The system is relatively flexible so that it may be adapted to the peculiarities of a particular plant and is expandable into the more advanced systems discussed in Parts II and III, without changes in the basic approach.



## PART II

### COST REPORTING ON A DEPARTMENT BASIS

#### CONTENTS

	Page
INTRODUCTION .....	21
Flow of Production and Cost Data .....	22
STATEMENT OF INCOME .....	22
Report Content .....	22
Report Preparation .....	22
Total Column .....	22
Broilers, etc. Columns .....	22
Sales .....	22
Cost of Sales .....	22
Gross Profit .....	25
PRODUCTION AND COST REPORT .....	25
Report Content .....	25
Production Section .....	25
Processing Costs Section .....	25
Costs Per Pound in Cents Section .....	25
Report Preparation .....	25
Production Section .....	25
Line-Hours Operated .....	27
Bird Production - Speed Per Line-Hour .....	27
Bird Production - Capacity .....	27
Bird Production - Actual .....	27
Bird Production - Productivity .....	27
Pound Production .....	27
Yield - Bird .....	27
Yield - Pounds .....	27
Average Weight .....	27
Processing Costs Section .....	27
Labor .....	27
Overhead .....	28
Direct Materials .....	28
Rates .....	28
Costs Per Pound Section .....	28

	Page
PLANT REPORT .....	28
Report Content .....	30
Report Preparation .....	30
Purchases .....	30
Trucking Losses .....	30
Live Sales .....	30
Net To Dressing .....	30
Dressing Loss .....	30
Net To Eviscerating .....	30
Eviscerating Loss .....	30
Condemnation Loss .....	30
Net Processed .....	30
Equivalent Pounds In .....	31
Processing Yield .....	31
Total Yield and Average Weight .....	31
Poundage Detail .....	31
PRODUCTION WORKSHEET .....	31
Worksheet Content .....	31
Worksheet Preparation .....	31
Birds Section .....	31
Net To Dressing .....	31
Net Processed .....	33
Yield .....	33
Pounds Section .....	33
Equivalent Lbs. In. ....	33
Net Processed .....	33
Yield .....	33
Average Weight .....	33
DEVELOPMENT OF PLANT DEPARTMENTAL OVERHEAD COSTS ....	33
Content of Worksheets and Forms .....	37
Plant Overhead Allocation Worksheet - Page 1 ....	37
Plant Overhead Allocation Worksheet - Page 2 ....	37
Summary of Distribution Bases for Overhead	
Allocation .....	37
Floor Space Listing and Equipment and H.P.	
Listing for Overhead Distribution .....	37
Preparation of Worksheets and Forms .....	37
Plant Overhead Allocation Worksheet - Page 1 ....	37
Plant Overhead Allocation Worksheet - Page 2 ....	38
Summary of Distribution Bases for Overhead	
Allocation .....	38
Floor Space Listing and Equipment and H.P.	
Listing for Overhead Distribution .....	38

	Page
ALTERNATIVES AND EXCEPTIONS .....	41
Plant Report .....	41
Expansion or Contraction .....	41
Monthly Summaries .....	41
Birds Purchased on a Ready-to-Cook Weight and Grade Basis .....	41
"Run-of-Farm" Purchases .....	41
Production and Cost Report .....	41
UTILIZING REPORT DATA .....	42
CONCLUSION .....	43

### SPECIMEN REPORTS AND WORKSHEETS

#### Figure

4--Flow of Production and Cost Data .....	23
5--Statement of Income .....	24
6--Production and Cost Report - Monthly .....	26
7--Plant Report - Weekly .....	29
8--Production Worksheet - Monthly .....	32
9--Plant Overhead Allocation Worksheet - Page 1 .....	34
10--Plant Overhead Allocation Worksheet - Page 2 .....	36
11--Summary of Distribution Bases for Overhead Allocations .....	36
12--Floor Space Listing for Overhead Distribution .....	39
13--Equipment and H.P. Listing for Overhead Distribution .....	40
14--Weekly Progress Chart - Productivity .....	43

## PART II

### COST REPORTING ON A DEPARTMENT BASIS

#### INTRODUCTION

The company which has enjoyed a growing business - accompanied by plant expansion and product diversification - usually will find the simple reports described in Part I of this Guide to be inadequate for control purposes. The reports provided in Part II are more detailed. Further, report content is segregated to furnish information pertaining to specific areas of responsibility.

Decentralization of authority and responsibility is necessary to the successful operation of larger plants. Decentralized control is aided by developing departmental information pertinent to processing operations for use by both general management and department supervisors. Means for limiting the distribution of financial information considered confidential is provided by the arrangement of report content. The reports described herein are interdependent and provide a related series of operating and financial data.

Part I basically focused attention on the conventional Statement of Income, supported by weekly and monthly Production and Cost Reports. Similarly, this part of the Guide begins with a description of a conventional Statement of Income which has been expanded in detail and is accompanied by an expanded Production and Cost Report.

The Production section of the Production and Cost Report has been condensed and detailed data are reported on a separate Plant Report. The Processing Costs section has been expanded to provide cost data by individual departments.

The new Plant Report is limited to production data. These data are, however, compared to established standards of performance.

The plant illustrated in this Part of the Guide is assumed to have two conveyor lines usually operating one shift; processes a variety of birds such as broilers, hens, and young turkeys; and ships both ice-packed and frozen birds in the whole, half, and cut-up state. Further, this plant has control over the source of supply of live birds. This control enables the selection of birds within predetermined weight categories. The development of report information to use under alternative purchasing arrangements and to provide answers to suit different purposes is also described in this Part of the Guide.

## FLOW OF PRODUCTION AND COST DATA

Figure 4 is a diagram of the flow of accounting data from sources into final reports and illustrates the interrelationship between the worksheets and reports discussed in this Part of the Guide.

### STATEMENT OF INCOME

Figure 5 illustrates a conventional Statement of Income. This statement has been expanded from that shown in Part I by adding major classifications of overhead expense. This statement and a Balance Sheet represent the basic financial reports of the plant or company.

### REPORT CONTENT

This report summarizes sales and operating results for the month both as to total results and as to the gross profit contribution of each of the major categories of birds processed and sold.

### REPORT PREPARATION

This report is prepared using data from the following sources:

#### Total Column

Sales, Cost of Sales, Selling and General and Administration, and Net Income figures for total plant operations come from the plant's books of account classified according to the chart of accounts outlined in Appendix 1 to this Guide. The degree of account classifications to be adopted depends upon the needs peculiar to the plant concerned. Similarly, the breakdown of sales, cost, and expense data on the statement can be varied depending upon the circumstances.

#### Broilers, etc. Columns

Sales. Figures come from sales accounts in the general ledger for each of the major categories of birds sold or from supplemental sales records that agree in total with the general ledger sales account.

Cost of Sales. Amounts for material and labor come from general ledger accounts and should agree with comparable figures on the Production and Cost Report discussed later; overhead costs and expenses from the general ledger; and inventory figures from the general ledger or supplemental records agreeing with the general ledger inventory account. Plants which do not operate

FANCY POULTRY CO.  
ANYWHERE, U. S. A.

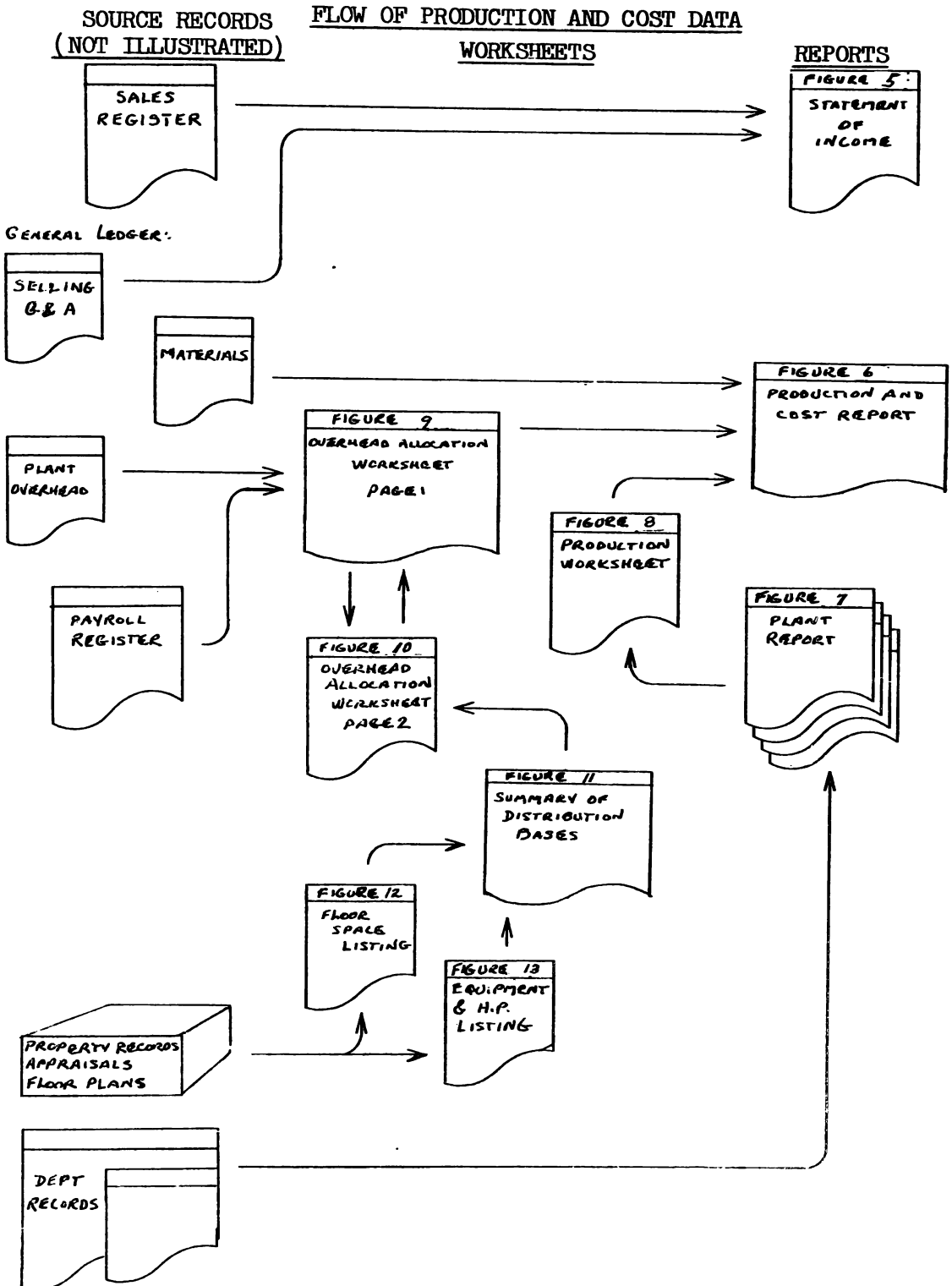


Figure 4

FANCY POULTRY CO.

STATEMENT OF INCOME

FOR THE MONTH OF MARCH, 19    

	.....COMBINED.....		.....BROILERS.....		.....HENS.....		.....TURKEYS.....	
	AMOUNT	% TO SALES	AMOUNT	% TO SALES	AMOUNT	% TO SALES	AMOUNT	% TO SALES
SALES - Pounds.....	<u>1,812.128</u>		<u>1,490.366</u>		<u>222,404</u>		<u>99,358</u>	
Amount.....	<u>\$512,952.70</u>	<u>100.00</u>	<u>\$418,435.71</u>	<u>100.00</u>	<u>\$58,625.90</u>	<u>100.00</u>	<u>\$35,891.09</u>	<u>100.00</u>
COST OF SALES:								
Materials:								
Inventory - beginning.....	1,080.20						1,080.20	
Production - Birds.....	376,795.20		306,630.00		49,723.20		20,442.00	
Other.....	<u>15,920.32</u>		<u>13,654.06</u>		<u>1,356.00</u>		<u>910.26</u>	
Sub-total.....	393,795.72		320,284.06		51,079.20		22,432.46	
Inventory - ending.....	<u>2,335.83</u>						<u>2,335.83</u>	
Cost of materials in sales....	<u>391,459.89</u>	76.32	<u>320,284.06</u>	76.54	<u>51,079.20</u>	87.13	<u>20,096.63</u>	55.99
Labor:								
Inventory - beginning.....	165.06						165.06	
Payrolls.....	<u>31,883.50</u>		<u>27,173.40</u>		<u>2,898.54</u>		<u>1,811.56</u>	
Sub-totals.....	32,048.56		27,173.40		2,898.54		1,976.62	
Inventory - ending.....	<u>242.15</u>						<u>242.15</u>	
Cost of labor in sales.....	<u>31,806.41</u>	6.20	<u>27,173.40</u>	6.49	<u>2,898.54</u>	4.94	<u>1,734.47</u>	4.83
Overhead:								
Inventory - beginning.....	<u>104.80</u>						104.80	
Expenses:								
Supervision and indirect labor	13,865.00							
Other related payroll costs...	3,057.50							
Supplies and facilities.....	4,148.50							
General expenses.....	415.00							
Fixed charges.....	<u>1,757.00</u>							
Total plant overhead.....	<u>23,243.00</u>		<u>19,734.66</u>		<u>2,192.63</u>		<u>1,315.71</u>	
Sub-totals.....	23,347.80		19,734.66		2,192.63		1,420.51	
Inventory - ending.....	<u>343.06</u>						<u>343.06</u>	
Cost of overhead in sales....	23,004.74	4.48	19,734.66	4.72	2,192.63	4.74	1,077.45	3.00
Net cost of sales.....	<u>446,271.04</u>	<u>87.00</u>	<u>367,192.12</u>	<u>87.75</u>	<u>56,170.37</u>	<u>93.81</u>	<u>22,908.55</u>	<u>63.82</u>
GROSS PROFIT.....	<u>66,681.66</u>	<u>13.00</u>	<u>\$ 51,243.59</u>	<u>12.25</u>	<u>\$ 2,455.53</u>	<u>4.19</u>	<u>\$12,982.54</u>	<u>36.18</u>
SELLING EXPENSES.....	22,128.30	4.31						
GENERAL AND ADMINISTRATION EXPENSES..	<u>12,206.50</u>	<u>2.38</u>						
Total selling and general and administration expenses....	<u>34,334.80</u>	<u>6.69</u>						
NET PROFIT.....	<u>\$ 32,346.86</u>	<u>6.31</u>						

NOTE: Inventory values shown above are the element content - Materials, Labor, Overhead - of processed bird inventories at both the beginning and end of the month.

Figure 5

cold storage facilities and which process and ship each day's receipts of live birds that same day will of course not have inventories to account for.

Gross Profit. Arrived at by subtraction.

### PRODUCTION AND COST REPORT

Figure 6 illustrates a monthly Production and Cost Report which supplements the monthly Statement of Income. This report may also be prepared on a weekly basis, but the Plant Report (discussed later in this Part of the Guide) will usually suffice for weekly reporting.

#### REPORT CONTENT

The report summarizes three essential types of information: (1) production data, (2) processing costs, (3) costs per pound in cents.

##### Production Section

This section of the report provides information on level of production activity, processing productivity, and yields. These data are reported both in total for the plant and by categories of birds and weights processed. Pre-established bird and weight categories, when continued in use from period to period, are intended to serve for comparative purposes.

##### Processing Costs Section

Dollar amounts of processing costs are reported, together with rates of cost per line-hour of operation or per 100 pounds of poultry produced. Labor and overhead costs are presented by individual major processing departments.

##### Costs Per Pound in Cents Section

Pound Production data and Processing Costs are brought together and reduced to cents per pound figures.

#### REPORT PREPARATION

The following is an explanation of sources of data and content of reports.

##### Production Section

Production information shown in the report by type of bird and weight category are obtained from two principal sources: (1) the Plant Report - via the Production Worksheet (both described later) and, (2) basic records (not illustrated) maintained along processing lines. Information for the "Plant Totals" column is accumulated from the details in the classification columns, except for Productivity which is calculated from other data under "Plant Totals."



Fancy Poultry Co.  
Anywhere, U.S.A.

DATE OF March 19 19  
MONTH 1919

PRODUCTION AND COST REPORT

ITEM	PLANT TOTALS	TYPE BIRD →		Broilers	Hens	Turkeys
		WEIGHT CATEGORY →		2.0 - 2.4	to 4.0	to 8.0
PRODUCTION:						
LINE - HOURS OPERATED	352			300	32	20
SPEED PER				2 400	2 200	1 000
BIRD PRODUCTION: LINE - HOUR	810 400			720 000	70 400	20 000
CAPACITY	785 369			698 917	67 200	19 252
ACTUAL	96 91 1/2			97 07 1/2	95 45 1/2	96 26 1/2
PRODUCTIVITY	1812 128			1 490 366	222 404	99 358
POUND PRODUCTION	94 79 1/2			94 70 1/2	95 24 1/2	96 46 1/2
YIELD - BIRDS	78 17 1/2			78 02 1/2	80 51 1/2	75 36 1/2
- POUNDS	2 434			2 252	3 475	5 350
AVERAGE WEIGHT						
PROCESSING COSTS:		RATE	PER			
LABOR - DRESSING	\$ 8 605 00	\$ 24 162	LINE-HOUR	\$ 7248 60	\$ 773 16	\$ 483 24
Eviscerating	20 141 50	\$ 17 220	LINE-HOUR	17 166 00	1 831 10	1 144 40
Packing	3 237 00	\$ 9 196	LINE-HOUR	2 758 80	294 28	183 72
TOTAL LABOR	31 883 50			27 173 40	2 898 54	1 811 56
OVERHEAD - TRANSPORT. IN	2 500 26	\$ 0 138	100 POUNDS	2 086 26	306 85	137 15
DRESSING	7 879 77	\$ 32 386	LINE-HOUR	6 715 70	716 35	447 72
Eviscerating	10 441 54	\$ 29 663	LINE-HOUR	8 898 98	949 30	593 26
Packing	2 421 43	\$ 6 879	LINE-HOUR	2 065 72	220 13	137 58
TOTAL O'HEAD	23 243 00			19 734 66	2 192 63	1 315 71
DIRECT MATERIALS - BIRDS	376 795 20			306 630 00	49 723 20	20 442 00
ICE	4 530 32	\$ 0 250	100 POUNDS	3 725 93	516 00	248 39
Packing	11 390 00			9 928 13	800 00	661 87
TOTAL MAT'L'S	392 715 52			320 284 06	51 079 20	21 352 26
PLANT TOTALS	\$ 447 842 02			\$ 367 192 12	\$ 66 170 37	\$ 24 479 52
COSTS PER POUND IN CENTS:						
LABOR - DRESSING	46 934			48 636	34 764	48 636
Eviscerating	1 11 148			1 15 180	82 332	1 15 180
Packing	17 863			18 511	13 232	18 511
TOTAL LABOR	1 75 945			1 82 327	1 30 328	1 82 327
OVERHEAD - TRANSPORT. IN	13 797			13 797	13 797	13 804
DRESSING	43 484			45 061	32 209	45 061
Eviscerating	57 620			59 710	42 684	59 709
Packing	13 363			13 847	09 898	13 847
TOTAL O'HEAD	1 28 264			1 32 415	98 588	1 32 421
DIRECT MATERIALS - BIRDS	20 79 297			20 57 414 22	35 715	20 57 407
ICE	25 000			25 000	25 000	25 000
Packing	62 854			66 615	35 970	66 615
TOTAL MAT'L'S	21 67 151			21 49 029	22 96 685	21 49 022
PLANT TOTALS	24 71 360			24 63 771	25 25 601	24 63 770
SELLING						
ADMINISTRATIVE						
TOTAL COST						

Figure 6

Line-Hours Operated. Time elapsed in processing each classification of bird during the period. The need to make mechanical or operating speed adjustments to the equipment when changing from one classification of bird to another simplifies the segregating of hours (See Appendix 3 - Alternative Determination of Line-Hours Operated, by Bird Types and Weight Categories).

Bird Production - Speed Per Line-Hour. The number of eviscerating hangers which should pass a given point in an hour. Because different bird types and sizes require synchronization with manual efforts, and for mechanical or other reasons, processors may alter the conveyor speed. "Normal" speeds for processing each classification of bird should be established to measure operating results between reporting periods.

Bird Production - Capacity. The number of birds which would have been processed if all hangers were used and no stoppages had occurred during the hours operated. The capacity for each classification is determined by multiplying "Hours Operated" by "Speed Per Line-Hour."

Bird Production - Actual. The number of birds placed on the dressing hangers. These figures are the total birds shown in the "Net to Dressing" section of the Production Worksheet (figure 8).

Bird Production - Productivity. The measurement of the efficient use of hangers during the hours operated. Productivity is determined by dividing "Actual" by "Capacity" and is expressed as a percentage.

Pound Production. The total "Pounds - Net Processed" copied from the Production Worksheet (figure 8).

Yield - Bird

Yield - Pounds

Average Weight - amounts which are entered on these lines by classification of bird from the Production Worksheet (figure 8).

### Processing Costs Section

Labor. Obtained from the direct labor accounts in the general ledger, where direct labor costs are recorded separately for each of the three major processing departments - Dressing, Eviscerating, and Packing - in accordance with the chart of accounts in Appendix 1 to this Guide. Labor cost is then allocated to bird and weight categories by, first, determining a rate per line-hour and, second, multiplying this rate by the number of line-hours each category was in production.

Amounts for labor should be limited to wages paid for straight-time hours worked by production employees. Other related costs (such as overtime premiums, shift premiums and

supervisory salaries) as well as fringe benefit costs (such as group insurance, hospitalization, pension plans, compensation insurance, and the like) should be accumulated in separate accounts and included as part of overhead. Some companies may wish to include all, or part, of these related costs in the category of "labor." However, for the sake of obtaining uniform information required in research and industry-wide cost studies, as contemplated in the preparation of this Guide, all costs other than wages paid for straight-time hours worked by production employees are excluded from the labor classification.

Overhead. Obtained from a worksheet for the four operating departments - Transport In, Dressing, Eviscerating, and Packing - as illustrated in figures 9 and 10. Department overhead figures can be further detailed into major types of expenses, such as repairs and maintenance, if considered desirable. Departmental overhead is then allocated to bird and weight categories by, first, determining a rate per line-hour and, second, multiplying this rate by the number of line-hours each category was in production.

Direct Materials. Costs for birds, ice, and packing materials, for entry in the "Plant Totals" column, are obtained from applicable accounts in the general ledger. Bird and packing materials costs by type and weight category are obtained from supplemental records to general ledger accounts. Ice costs are distributed to bird and weight categories on the basis of the average cost of ice per hundred pounds of poultry processed (Pound Production).

Rates. Labor and overhead rates for dressing, eviscerating, and packing are computed by dividing "Plant Total" costs by total line-hours operated. Rates for transport-in and for ice costs are computed by dividing the respective totals of these costs by "Pound Production."

#### Costs Per Pound in Cents Section

Costs per pound are computed by dividing the various items of processing costs by the Pound Production figures.

Provision has also been made in this section for entering selling, administration, or any other elements of expense that are appropriately added to processing costs to obtain, for statistical and pricing purposes, an overall cost per pound of poultry sold.

#### PLANT REPORT

Figure 7 illustrates a weekly Plant Report that summarizes processing activities and also serves as the source of certain data for the Production and Cost Report.

WEEK  
MONTH ENDED March 19 19\_\_

Fancy Poultry Co.  
Anywhere, U. S.A.

PLANT Parker

# PLANT REPORT POULTRY PROCESSED

HOURS & TYPE BIRD	80		64	Broilers	16	Hens
WEIGHT CATEGORY	Plant Totals		2.0 - 2.4		To 4.0	
	POUNDS	BIRDS	POUNDS	BIRDS	POUNDS	BIRDS
PURCHASES	604 056	201 516	472 000	168 480	132 056	33 036
TRUCKING LOSSES	624	350	624	350		
LIVE SALES						
NET TO DRESSING	603 432	201 166	471 376	168 130	132 056	33 036
DRESSING	ACT. 0.59 %	1 188	ACT. 0.46 %	772	ACT. 1.26 %	416
LOSS	STD. 0.25 %		STD. 0.25 %		STD. 0.25 %	
NET TO EVISCERATING		199 978		167 358		32 620
EVISCERATING	ACT. 7.59 %	15 180	ACT. 8.70 %	14 560	ACT. 7.90 %	620
LOSS	STD. 6.50 %		STD. 6.50 %		STD. 6.50 %	
CONDEMNATION	ACT. %	10 190	ACT. %	8 506	ACT. %	1 684
LOSS	STD. %		STD. %		STD. %	
NET PROCESSED	419 412	174 608	325 568	144 292	93 844	30 316
EQUIV. POUNDS IN	525 728		404 543		121 185	
PROCESSING YIELD	ACT. 79.78 %	STD. 80.00 %	ACT. 80.48 %	STD. 80.00 %	ACT. 77.44 %	STD. 80.00 %
TOTAL AVERAGE	ACT. 69.50 %		ACT. 69.07 %		ACT. 71.06 %	
YIELD WEIGHT	STD. %	2.703 LBS.	STD.	2.256 LBS.	STD.	3.096 LBS.
POUNDA GE DETAIL.	POUNDS	% TO TOTAL	POUNDS	% TO TOTAL	POUNDS	% TO TOTAL
GRADE A	377 336	89.97 %	287 624	88.35 %	89 712	95.60 %
GRADE B	27 700	6.60 %	25 816	7.93 %	1 884	2.00 %
GRADE C	14 376	3.43 %	12 128	3.72 %	2 248	2.40 %
		%		%		%
	419 412	100.00 %	325 568	100.00 %	93 844	100.00 %

Figure 7

## REPORT CONTENT

The Report summarizes operating data, including losses and yields, for each of the major steps from purchasing through eviscerating and grading for each of the various categories of birds processed.

More operating information is provided than in the Report illustrated in Part I. With this additional detail, the management of the larger and more diversified plant can measure the efficiency of various areas of operations. To facilitate the evaluation of the data shown on this report, provision has been made for comparisons with standards. Normally, standards of performance are set from historical averages tempered by judgment or from time studies made by Industrial Engineering Personnel; however, under some circumstances, standards must be set by considered judgment alone. Standards should be reviewed constantly and should be changed as operating methods are improved or changed. Occasionally, revisions of standards may be delayed deliberately until the actual effects of changes in operating methods have been determined.

## REPORT PREPARATION

Data for this report come from basic records (not illustrated) of bird counts and weights maintained as to purchases and at key points along the production line.

The following is an explanation of the content of various line items on the report:

Purchases. Pounds and number of birds loaded on the truck prior to transportation to the processing plant.

Trucking Losses. Pounds and number of birds lost, killed, or damaged in transit to the processing plant.

Live Sales. Sale of live birds from those purchased by the company.

Net to Dressing. Pounds and number of birds, by classes, placed on the dressing hangers.

Dressing Loss

Net to Eviscerating

Eviscerating Loss

Condemnation Loss. Recorded bird counts. The actual percentages shown are calculated by dividing each bird loss by the corresponding process input in birds. The standard percentages are established by management and may be averages of prior periods. The Condemnation Loss is the number of birds rejected under Department of Agriculture standards.

Net Processed. Number and pounds of birds coming off the end of the eviscerating line.

Equivalent Pounds In. Determined by multiplying the number of "Net Processed" birds by the average live weight. The average live weight is determined by dividing the pounds by the number of birds, both as shown on the line "Net to Dressing."

Processing Yield. A comparison of the net weight of the carcass with the original live weight on a percentage basis. The actual percentages of processing yield are determined by dividing the "Net Processed" pounds by the "Equivalent Pounds In." The standard processing yield percentages will be established by management and may be averages from prior periods.

Total Yield and Average Weight. Total Yield represents, in terms of percentages, the resultant salable poundage obtained from the original poundage placed on the dressing hangers. The percentage is determined by dividing the "Net Processed" pounds by the "Net to Dressing" pounds. Average Weight is determined by dividing the pounds by the number of birds, both shown on the "Net Processed" line. As a check, the "Average Weight" divided by the average live weight figure (computed for "Equivalent Pounds In") should also give the actual "Processing Yield."

Poundage Detail. Net processed pounds of various grades of birds as determined at the end of the eviscerating line. This information may be used by management as a historical record of grade trends.

### PRODUCTION WORKSHEET

Figure 8 illustrates a Production Worksheet which summarizes certain information from weekly Plant Reports for entry on the monthly Production and Cost Report.

### WORKSHEET CONTENT

The worksheet summarizes, from weekly Plant Reports, pounds of birds processed, by type and weight categories, to obtain yield and average weight data for the month. When the month beginning and ending does not coincide with the end of a week these data will need to be accumulated separately for days in the split-weeks concerned in order to arrive at data for the month.

### WORKSHEET PREPARATION

The following is an explanation of the data on this worksheet:

#### Birds Section

Net to Dressing. Actual number of live birds introduced into the dressing process as taken from the weekly Plant Reports. The total for the month is transferred to the Bird Production - Actual line on the monthly Production and Cost Report.

PRODUCTION WORKSHEET  
YIELD & WEIGHT CALCULATIONS

WEEK ENDING	PLANT TOTALS	Broilers 2.0-2.4	Hens To 4.0	Turkeys to 8.0		
<b>BIRDS</b>						
NET TO DRESSING:						
(4 days) 3/5	162 202	162 202	-	-		
3/12	153 171	133 919	-	19 252		
x 3/19	201 166	168 130	32 036	-		
3/26	177 004	142 840	34 164	-		
(3 days) 4/3	91 826	91 826	-	-		
TOTALS	785 369	698 917	67 200	19 252		
NET PROCESSED:						
(4 days) 3/5	157 807	157 807	-	-		
3/12	150 278	131 708	-	18 570		
x 3/19	174 608	144 292	30 316	-		
3/26	172 815	139 130	33 686	-		
(3 days) 4/3	88 938	88 938	-	-		
TOTALS	744 446	661 875	64 001	18 570		
YIELD - %	94.79	94.70	95.24	96.46		
<b>POUNDS</b>						
EQUIVALENT LBS. IN						
(4 days) 3/5	456 290	456 290	-	-		
3/12	508 426	376 582	-	131 844		
x 3/19	525 728	404 543	121 186	-		
3/26	564 519	409 460	155 059	-		
(3 days) 4/3	263 316	263 316	-	-		
TOTALS	2 318 279	1 910 191	276 244	131 844		
NET PROCESSED:						
(4 days) 3/5	355 380	355 380	-	-		
3/12	395 790	296 432	-	99 358		
x 3/19	419 412	325 568	93 844	-		
3/26	441 875	313 315	128 560	-		
(3 days) 4/3	199 671	199 671	-	-		
TOTALS	1 812 128	1 490 366	222 404	99 358		
YIELD - %	78.17	78.02	80.51	75.36		
AVERAGE WEIGHT - LBS.	2.434	2.252	3.475	5.350		

(\* See Figure 7)

Figure 8

Net Processed. Net number of birds processed through dressing and eviscerating operations and transferred from the weekly Plant Reports. The total for the month is used to compute the bird yield figure.

Yield. Result of dividing total Net Processed by total Net to Dressing; a percentage expression of the total birds put into process related to the number that come out of the eviscerating process. The yield for the month is transferred to the Yield - Birds line on the monthly Production and Cost Report.

### Pounds Section

Equivalent Lbs. In. Quantities transferred directly from the weekly Plant Reports. The total for the month is used to compute Net Processed Yield in pounds.

Net Processed. Quantities transferred directly from the weekly Plant Reports. The total for the month is transferred to the Pound Production line on the monthly Production and Cost Report.

Yield. Result of dividing the total Net Processed pounds by the total Equivalent Lbs. In. This percentage yield is transferred to the Yield - Pounds line on the monthly Production and Cost Report.

Average Weight. Result of dividing the total New Processed (Pounds) by the Net Processed (Birds). This quantity is transferred to the Average Weight line on the monthly Production and Cost Report.

### DEVELOPMENT OF PLANT DEPARTMENTAL OVERHEAD COSTS

The Production and Cost Report, figure 6, includes departmental overhead data in the Processing Costs section of the report. These overhead data are developed on the Plant Overhead Worksheet, figures 9 and 10. The development of the departmental overhead data involves the following essential steps:

1. Charging all expenses to the appropriate departmental expense accounts in the general ledger as part of general accounting procedure either as direct charges or by allocation, as appropriate in the circumstances.
2. Developing bases for allocating nonproduction departmental overhead costs to the direct production departments.
3. Allocating nonproduction departmental overhead costs to the direct production departments so that when allocated costs are added to the direct costs of these departments a total departmental overhead figure results for each.

The development of operating department overhead costs is illustrated through the use of the following worksheets and forms:

Plant overhead allocation worksheets, figures 9 and 10.



# PLANT OVERHEAD ALLOCATION →

ACCOUNT	TOTAL	ALLOCATIONS			
		PAYROLL	FLOOR SPACE	EQUIPMENT VALUES	
				IN PLACE	EQUALIZED *H.P. REQUIRE.
DIRECT LABOR (MEMO)	\$ 31,883.50	\$	\$	\$	\$
SUPERVISION & INDIRECT LABOR					
SALARIES - SUPERVISION	665.00	1550.00			
SALARIES - TECH. & PROP.	700.00				
SALARIES - CLERICAL	3260.00	700.00			
INDIRECT LABOR	3290.00				
TOTAL PAYROLL (MEMO)					
RELATED PAYROLL COSTS					
VACATION PAY	1440.00				
TAXES & INSURANCE	1617.50	120.00			
SUPPLIES AND FACILITIES					
FUELS	1496.00		676.00		
POWER - LIGHT	625.00				* 625.00
WATER	297.00				
GENERAL SUPPLIES	328.00			328.00	
DEPT. SUPPLIES	850.50				
LUBRICANTS	165.00			93.00	
AUTO & TRUCK FUELS	385.00				
GENERAL EXPENSES					
REP. & MAINT. - BLDG.	325.00		325.00		
REP. & MAINT. - EQUIP.	95.00			95.00	
FIXED CHARGES					
DEPRECIATION - BLDG.	475.00		475.00		
DEPRECIATION - EQUIP.	930.00			930.00	
TAXES - PROPERTY	35.00		35.00		
TAXES - OTHER	52.00			52.00	
INSURANCE - PROPERTY	65.00		65.00		
INSURANCE - OTHER	95.00			95.00	
LIFE INSURANCE	105.00	105.00			
PLANT TOTALS - A	23243.00	2475.00	1576.00	1593.00	* 625.00
ALLOCATIONS OF SERVICE DEPTS.					
RESEARCH & G.C.		2756.00			
COST & PAYROLL		2048.00			
PERSONNEL		1351.00			
TIME STUDY		960.50			
PLANT MAINTENANCE			360.50		
PLANT TOTALS - B	23243.00	7590.50	1936.50	1593.00	* 625.00
ALLOCATIONS TO DEPARTMENTS (PAGE 2)		(7590.50)	(1936.50)	(1593.00)	(625.00)
PLANT TOTALS - C	\$ 23243.00	\$ - 0 -	\$ - 0 -	\$ - 0 -	\$ - 0 -

Figure 9

**Fancy Poultry Co.**  
**Anywhere, U. S. A.**

← WORKSHEET - PAGE 1

**March, 19**

[illegible]

# PLANT OVERHEAD ALLOCATION WORKSHEET - PAGE 2

March, 19

BASES	TRANSPORT IN	DRESSING	EVISCERATING	PACKING	TOTAL PLANT
PAYROLL DOLLARS (MEMO)	\$ 1 300.00	\$ 9 600.00	\$ 21 486.50	\$ 3 577.00	\$ 35 963.50
PERCENTAGES:-					
PAYROLL	3.6%	26.7%	59.4%	9.9%	100.0%
FLOOR SPACE		46.6%	26.9%	26.5%	100.0%
H. P. REQUIREMENTS		85.4%	9.7%	4.9%	100.0%
EQUIPMENT VALUES-IN PLACE		60.7%	30.5%	8.8%	100.0%
EQUIPMENT VALUES-EQUALIZED		%	%	%	%
ALLOCATIONS:-					
PAYROLL	\$ 345.26	\$ 2 560.66	\$ 5 735.12	\$ 949.46	\$ 9 590.50
FLOOR SPACE		902.41	520.92	513.17	1 936.50
H. P. REQUIREMENTS		533.75	60.63	30.62	625.00
EQUIPMENT VALUES-IN PLACE		966.95	485.87	140.18	1 593.00
EQUIPMENT VALUES-EQUALIZED					
DEPT. TOTALS	\$ 345.26	\$ 4 963.77	\$ 6 802.54	\$ 1 633.43	\$ 13 745.00

Figure 10

## Fancy Poultry Co. Anywhere, U. S. A. SUMMARY OF DISTRIBUTION BASES FOR OVERHEAD ALLOCATIONS

PLANT Parkus  
PERIOD Year 19

DEPARTMENT-PROCESS	PLAN- NED NO. SHIFTS	DIRECT LABOR		FLOOR SPACE		H. P. REQUIREMENTS			EQUIPMENT VALUE			
		PAYROLL	%	SQ. FEET	%	H. P. IN PLACE	EQUALIZED DEMAND	%	IN PLACE		EQUALIZED	
									VALUES	%	VALUES	%
		\$							\$		\$	
<i>Dressing</i>	1			10 032	46.6	105		85.4	75 670	60.7		
<i>Eviscerating</i>	1			5 784	26.9	12		9.7	37 944	30.5		
<i>Packing</i>	1			5 700	26.5	6		4.9	11 000	8.8		
<i>Plant Totals</i>				21 516	100.0	123		100.0	124 614	100.0		

Figure 11

Summary of Distribution Bases for Overhead Allocation, figure 11.

Floor Space Listing and Equipment and H.P. Listing For Overhead Distribution, figures 12 and 13.

## CONTENT OF WORKSHEETS AND FORMS

Plant Overhead Allocation Worksheet - Page 1. Illustrates final summarization of overhead data for transfer to the production and cost report.

Plant Overhead Allocation Worksheet - Page 2. Illustrates details for computing the amount of nonproduction department expense allocable to each direct production department.

Summary of Distribution Bases For Overhead Allocation. Illustrates results of developing bases for allocating the various nonproduction department costs.

Floor Space Listing and Equipment and H.P. Listing For Overhead Distribution. Illustrates accumulation of underlying data necessary for developing overhead distribution bases.

## PREPARATION OF WORKSHEETS AND FORMS

The company illustrated has a departmentalized organization and has segregated a number of its nonproduction or production service activities into the following departments: Research and Quality Control, Cost and Payroll, Time Study, and Plant Maintenance.

Plant Overhead Allocation Worksheet - Page 1 (figure 9). Prepared by entering the totals of costs and expenses from the applicable accounts in the general ledger. Whenever direct charging is practical, overhead accounts should be maintained by departments, as for example, the cost of departmental supplies shown in the illustration. Whenever direct charging is impractical, overhead accounts will require allocation to operating departments, as for example, the cost of power and light. Overhead expenses which require such allocation should be classified on the worksheet in the allocation columns according to bases suggested on the list of overhead accounts in Appendix 1 to this Guide.

After the overhead expenses are listed and proved, the nonproduction department totals are then reclassified. In figure 9, the costs of the Research and Quality Control, Cost and Payroll, Time Study, and Personnel Departments are allocated to direct production departments on the basis of total payroll. The Plant Maintenance Department costs are allocated on the basis of man-hours reported by that department. Thus, portions of the cost of plant maintenance are allocated directly to some departments, and a portion, representing hours worked on the roof of the plant, is reclassified to the allocation column "Floor Space."

The amounts (on the line for Plant Totals - B) in the "Allocations" group of columns are transferred to the Plant Overhead Allocation Worksheet - Page 2 to be allocated to departments, as explained below. The Plant Totals - B are then readjusted and retotaled on the line, Plant Totals - C, after which they are transferred to appropriate lines in the Processing Costs section of the Production and Cost Report.

Plant Overhead Allocation Worksheet - Page 2 - (figure 10). Prepared as a matter of convenience. The Plant Totals (B) of the allocation columns on Page 1 of the worksheet (figure 9) are transferred to this supplemental worksheet. A set of percentages used in allocating the various overhead accounts is shown in the upper section of figure 10. The percentages for square feet of productive floor space, horsepower requirements, and equipment values are obtained from Summary of Distribution Bases For Overhead Allocation, figure 11, and will remain constant until the factors on which the percentages have been determined change materially. The payroll percentages should be computed each month using the Total Payroll (memo) information listed on the Plant Overhead Allocation Worksheet - Page 1.

The total amounts of payroll, floor space, H.P. requirements and other costs to be allocated are transferred from the Plant Overhead Allocation Worksheet - Page 1, (figure 9); the allocations are computed by applying the percentages for the various factors; and allocated dollar amounts are then entered on the Plant Overhead Allocation Worksheet - Page 1. (figure 9)

Summary of Distribution Bases For Overhead Allocation (figure 11). Prepared from underlying worksheets for each of the bases of allocation used in the system; in this illustration the bases are floor space, horsepower of motors in place, and equipment values. Total amounts for each of these factors, for each department, are listed and percentages computed. These percentages are then transferred to Plant Overhead Allocation Worksheet - Page 2, figure 10 and used for distributing overhead costs not directly assignable to specific departments.

Floor Space Listing and Equipment and H.P. Listing For Overhead Distribution. Records data on these factors from available sources.

Floor space, shown in figure 12, represents production floor space for each department. Any spare storage space and areas reserved for future plant expansion have been omitted from the computations, since the inclusion of such floor space would distort the allocation base.

Production equipment and their values, by departments, are shown in figure 13. This schedule also includes a list of the various connected motors, with their horsepower ratings, used in determining the percentage of H.P. requirements.

Valuations used on the equipment list may be original cost or replacement cost. If all equipment was purchased over a short period of time or over a period in which there was no appreciable rise or fall in processing equipment prices, the use of original cost is recommended. If, on the other hand, equipment was purchased over a period during which values changed materially,

Floor Space LISTING  
FOR OVERHEAD DISTRIBUTION

DATE 2/15 19     

DEPARTMENT all

PREPARED BY: J. Doe

BASE Square Feet

LOCATION - ITEM	UNITS	PER UNIT	TOTAL <u>Sq. Ft.</u>	REMARKS
<u>Dressing</u> 88' x 114'			10 032	
<u>Eviscerating</u> 56' x 114'			5 784	
<u>Packing</u> 50' x 114'			5 700	
<u>Plant Total</u>			<u>21 516</u>	

Figure 12

replacement cost may be preferable. Replacement costs may be obtained from insurance records, up-to-date price lists of processing equipment, or by the application of price indices to original costs. These valuations are used to allocate certain expenses and therefore do not necessarily have a direct relationship to the computation of depreciation expense used by the company for financial reporting or tax purposes.

In the event all departments do not operate the same number of shifts under normal conditions, horsepower requirements and equipment valuations should be adjusted (or weighted) to obtain more equitable allocation percentages. A method for adjusting these data to meet this condition is illustrated in Part III of this Guide.

When completed, floor space, equipment values, and horsepower totals on these forms are transferred to the Summary of Distribution Bases For Overhead Allocations, figure 11.

Fancy Poultry Co.  
Anywhere, U. S. A.

Equipment & H. P. LISTING  
FOR OVERHEAD DISTRIBUTION

DATE 2/5 19     

DEPARTMENT AW

PREPARED BY: J. Doe

BASE Original Cost

LOCATION - ITEM	UNITS	Cost PER UNIT	TOTAL	REMARKS
<u>Dressing</u>		\$	\$	<u>Removal of Motors</u>
Bleeding Trough	2	850.00	1 700.00	
Scalder & Controls & Motors	2	5 765.00	11 530.00	4 @ 10 40 H.P.
Neck & Hook Scalder	4	895.00	3 580.00	
Pickup	6	3 675.00	22 050.00	
Motors	12	155.00	1 860.00	12 @ 5 60
Quill Puller & Motors	2	695.00	1 390.00	2 @ 1/2 1
Singer	2	1 225.00	2 450.00	
Auxiliary Equipment	2	275.00	550.00	
Catwalk (Hoisting)	2	140.00	280.00	
Washer	2	1 950.00	3 900.00	
Feather Disposal	2	5 690.00	11 380.00	
Conveyor & motors	800'		15 000.00	8 @ 1/2 4
Total Dressing			<u>75 670.00</u>	<u>105</u>
<u>Eviscerating</u>				
Troughs			6 824.00	
Tablet handling equipment			10 980.00	
Inspector station	2	950.00	1 900.00	
Cans - galvanized	4	22.50	90.00	
Head cutter	2	1 935.00	3 870.00	
Washer	2	595.00	1 190.00	
Offal Disposal	2	3 045.00	6 090.00	
Conveyor & motors	450'		7 000.00	6 @ 2 12
Total Eviscerating			<u>37 944.00</u>	<u>12</u>
<u>Packing</u>				
Work tables	44'		4 500.00	
Conveyor	200'		4 000.00	
Ice Crusher			2 500.00	
Motors				2 @ 1/2 - 105 6
Total Packing			<u>11 000.00</u>	<u>6</u>
<u>Total Plant</u>			<u>\$124 614.00</u>	<u>123 H.P.</u>

Figure 13

## ALTERNATIVES AND EXCEPTIONS

### PLANT REPORT

Expansion or Contraction. The Plant Report, (figure 7) may be made to accomodate the particular needs of the individual company. Examples of items which may be added to the Plant Report are:

Net Pounds To Eviscerating

Total Bird Losses (including condemnation)

Total Bird Losses Expressed as Percentages

Total Yield Exclusive of Condemnation Losses

Monthly Summaries. Monthly cut-offs are necessary when month-ends fall on days other than week-ends.

Birds Purchased on a Ready-to-cook Weight and Grade Basis. Production data may be accumulated on a Plant Report form by farm and flock by identifying each column according to farm and flock number and summarizing these data weekly on the Plant Report by classification of bird.

"Run-of-Farm" Purchases. Not in all respects susceptible to production and yield reporting by ready-to-cook weight categories. However, since most companies segregate eviscerated birds by automatic weighing devices, accurate results can be determined by other means.

The Plant Report can be prepared in the manner previously outlined to show pertinent information by bird type, such as fryers, broilers, hens, and turkeys, without a breakdown by weight categories. Further, data pertaining to individual flocks or supplying farms may be shown in separate columns to reveal yield trends and comparisons of various supplying farms.

### PRODUCTION AND COST REPORT

The Production and Cost Report, figure 6, illustrates data reported by weight categories. Weight category data can be developed for "run-of-farm" purchases by reporting total production and expense for each bird type - broilers, mature chickens, turkeys - in one column and using the additional columns for allocating total data to weight categories, in the following manner:

Line-Hours Operated. Allocated to weight categories in proportion to Bird Production - Actual (see below and also Appendix 3).



Bird Production - Actual, and Pound Production. From records prepared by weight categories at weighing points.

Other Production Data. In the "Production" section of the report will have no significance by weight categories except "average weight" which is computed as previously described.

Direct Materials - Birds. Allocated to weight categories on a poundage basis. However, if purchase records show charges by bird types, such as broilers, fryers, and hens, the "Direct Materials - Birds" costs should be charged to these types before allocations are made to weight categories.

Direct Materials - Packing. Allocated on a "per bird" basis unless accounting records provide direct charges to bird types or weight categories.

Other Processing Costs. Allocated in the manner previously described.

Costs Per Pound. Determined as previously described.

#### UTILIZING REPORT DATA

Plant managers may employ the same techniques described in Part I in using the reports described in this Part II as control devices. To illustrate, the data presented on the Plant Report should aid in directing attention to areas requiring corrective action. Standard percentages used in this report should focus attention on excessive processing losses and low yield percentages. In the illustration in figure 7, under broilers, a fairly good processing job has been done with the possible exception of condemnation losses. However, the Average Weight is only 3.096 pounds in the hens category, indicating that the live birds selected for this category had not reached the proper weight for processing.

The major differences between the reports illustrated in this Part and those illustrated in Part I are the arrangement and amount of detail. Also, control of processing is facilitated by comparison to standards which have been established for some elements.

Because of the introduction of standards into the reporting system used in this Part, a different pattern of graph charting is offered. On the graph illustrated as figure 14, a productivity trend is substituted in place of yield and cost information. Since the productivity percentage is not likely to fluctuate widely, several classifications of bird are charted on the same graph.

WEEKLY PROGRESS CHART-PRODUCTIVITY

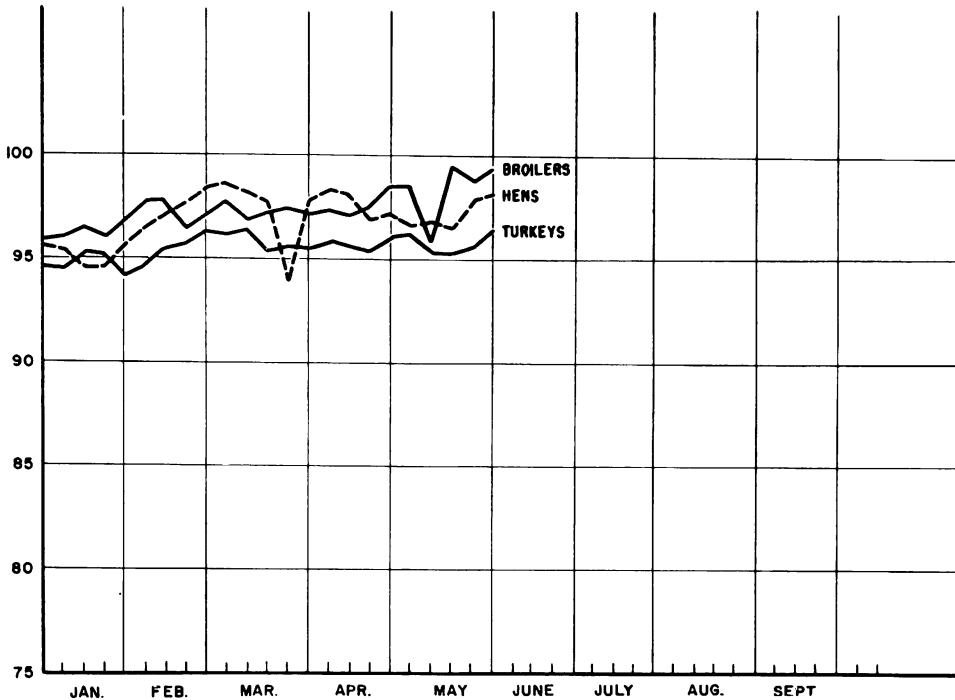


Figure 14

CONCLUSION

Under this system of departmental reporting, a continuing flow of information is provided to meet the needs in relatively complex plant operations. As a means of broadening the control aspects, two reports are provided; one for plant supervisory personnel, who, in the final analysis, control the factors which determine costs per pound, and the other for management personnel. While providing additional detail, uniformity and consistency in charging major elements of cost have been maintained on a basis compatible with the approach in Part I of this Guide.

### PART III

## COST REPORTING ON A BUDGETARY BASIS

### CONTENTS

	<u>Page</u>
INTRODUCTION.....	48
Principal Features of Budgetary Controls.....	48
Basic Elements in the Control System.....	49
Statement of Income.....	49
Summary of Cost Performance.....	49
Basic Control Reports.....	49
Underlying System Requirements.....	49
Flow of Accounting Data.....	50
STATEMENT OF INCOME.....	50
Report Content.....	55
Report Preparation.....	55
Sales.....	55
Cost of Sales.....	55
Material - Birds, and Materials - Other.....	55
Labor.....	55
Overhead.....	55
Gross Profit.....	55
Selling Expenses and General Administration Expenses.....	55
Net Income.....	55
DEVELOPING THE BUDGET.....	55
Organization.....	58
Process Flow Chart.....	58
Cost Centers.....	58
Labor Budgets.....	59
Direct Labor Budget.....	59
Indirect Labor Budget.....	61
Overhead Budgets.....	61
Overhead Budget Worksheet.....	61
Department Budgets.....	64
Overhead Budget at Planned Volume.....	64
Distribution of Overhead.....	64
Labor and Overhead Cost Rates (Per Man or Machine-Hour).....	70
Worksheet Content.....	70
Worksheet Preparation.....	70
Number of Machines, Number of Planned Shifts, and Base Unit.....	70
Base Jobs.....	70
Number of Units.....	70
Per Month - Labor.....	70

	<u>Page</u>
Per Month - Overhead.....	70
Per Unit Labor and Per Unit Overhead.....	70
Results of Budgeting Procedures.....	71
DEVELOPMENT OF PROCESS AND PRODUCT COSTS.....	71
Standard Loss Percentages.....	71
Test Data of 1,000 Selected Broilers.....	71
Tabulation of Test Results.....	72
Standard Loss Percentages.....	72
Bird Losses.....	75
Edible Yield.....	75
Combined Yield.....	75
Combined Loss.....	75
Packing Losses and Cutting Losses.....	75
Process Costs.....	75
Eviscerating Unit Costs.....	75
Production Unit.....	75
Productivity - Speed.....	75
% Utilization.....	75
Net Productivity.....	77
Labor and Overhead Per Production Unit.....	77
Labor and Overhead For Control Reporting.....	77
Packing Unit Costs.....	77
Production Unit.....	77
Weight Category.....	77
Productivity.....	77
Labor and Overhead Per Production Unit.....	77
Labor and Overhead For Control Reporting.....	77
Product Costs.....	77
Cost of Dressed and Eviscerated Birds.....	78
Net Quantity, % Loss, and Gross Quantity.....	78
Pricing Unit.....	78
Labor and Overhead.....	80
Cumulative Total.....	80
Material.....	80
Totals.....	80
1¢ Differential.....	80
Cost of Cut-Up Broilers - 2-4/16.....	80
Cost of Thighs and Drumsticks.....	80
PLANT REPORTING.....	83
Report Content.....	83
Report Preparation.....	83
COST REPORTING.....	83
Weekly Cost Control Report Worksheet.....	85
Worksheet Content.....	85
Worksheet Preparation.....	85

	<u>Page</u>
Type Bird, Weight Category, and Production.....	85
Per Unit - Labor and Overhead.....	85
Absorbed - Labor and Overhead.....	85
Allowed Labor and Overhead, Productivity.....	85
Variances and Ratio.....	87
Activity.....	87
Weekly Cost Control Report.....	87
Report Content.....	87
Report Preparation.....	87
Absorbed Labor, Allowed Labor, Productivity Variance, and Productivity Ratio.....	87
Actual Payroll.....	87
Payroll Variance.....	87
Labor Ratio.....	87
Plant Totals - Ratios.....	87
Activity.....	87
Material Usage.....	89
Labor and Overhead Analysis Worksheet.....	89
Worksheet Preparation.....	89
Labor Section.....	89
Overhead Section.....	89
Absorbed and Allowed.....	89
Normal Budget at 100%.....	89
Activity %.....	92
Actual.....	92
Adjusted Budget.....	92
Variances.....	92
Overhead Spending Variance Report.....	92
Report Content.....	94
Report Preparation.....	94
Accounts and Overhead Budget.....	94
Adjusted Budget.....	94
Actual Expenses.....	94
Spending Variances.....	94
Summary of Cost Performance.....	94
Report Content.....	94
Report Preparation.....	96
Utilizing Report Data.....	96
ALTERNATIVES AND EXCEPTIONS.....	96
Standard Cost Control.....	96
Income Statement Arrangement.....	98
Selling and General and Administration Expenses.....	98
Plant Report.....	98
CONCLUSION.....	98

## SPECIMEN REPORTS AND WORKSHEETS

<u>Figure</u>	<u>Page</u>
15--Flow Charts of Budget, Cost, and Report Development.....	51
15--Part 2 of 3.....	52
15--Part 3 of 3.....	53
16--Statement of Income.....	54
17--Typical Flow of Operations in Poultry Processing.....	56
18--Direct Labor Budget.....	60
19--Overhead Budget Worksheet.....	62
20--Overhead Budget.....	63
21--Overhead Budget at Planned Volume.....	65
22--Summary of Distribution Bases for Overhead Allocations....	66
23--Overhead Budget Distribution to Cost Centers.....	68
24--Labor and Overhead Rates (Per Man or Machine Hour).....	69
25--Test Data of 1,000 Selected Broilers.....	73
26--Standard Loss Percentages.....	74
27--Process Cost Calculations - Eviscerating.....	76
28--Process Cost Calculations - Packing.....	76
29--Product Specification and Cost Sheet - Eviscerated Birds..	79
30--Product Specification and Cost Sheet - Cut-Up Broilers - . 2-4/16.....	81
31--Product Specification and Cost Sheet - Thighs and Drum- sticks.....	82
32--Plant Report - Weekly.....	84
33--Weekly Cost Control Report Worksheet (Without Materials)..	86
34--Weekly Cost Control Report.....	88
35--Weekly Cost Control Report Worksheet (With Materials).....	90
36--Labor and Overhead Analysis Worksheet.....	91
37--Overhead Spending Variance Report.....	93
38--Summary of Cost Performance.....	95
39--Weekly Ratio Chart.....	97

## PART III

### COST REPORTING ON A BUDGETARY BASIS

#### INTRODUCTION

##### PRINCIPAL FEATURES OF BUDGETARY CONTROLS

The large, diversified company, with its heavy investment in plant and other assets, may find that reports limited to actual expenses are inadequate. The heavier responsibilities associated with the large company, including the decentralization of managerial authority and responsibility, require the establishment of more refined controls over operations and expenditures. Managerial control involves the direction of activities according to a plan, or set of standards. The plan, or budget, must not be static; on the contrary, it must be revised periodically to reflect changes in the factors upon which the budget was originally based. Control over expenditures is obtained more effectively by periodic comparison of operating results with the plan, or budget.

The importance of using budgets to control expenditures - commonly referred to as budgetary control - is becoming increasingly evident in the successful conduct of business affairs. Reduced to simple terms, budgets are estimates of revenues and expenses and are based on past experience tempered by realistic forecasts of the future. Budgets are specific business plans for a specific future period. Budgetary control, in the main, is effected when actual expenditures for a reporting period have been held to the limits indicated by a basic budget which has been adjusted for the volume of operations. To be completely effective the reports emanating from the budgetary control system must clearly disclose areas where corrective action is required and indicate responsibility for taking such action.

The expense budget and control program for the large, diversified company, illustrated in this Part of the Guide, is designed to permit adaptation to current needs and to permit future refinements. Need for refinement may arise from further diversification or expansion. Unaccounted-for losses may require additional detail in suspected areas, or correction of trouble areas may reduce the need for continuing such detail. Such adaptations or refinements to meet changing circumstances need not disturb the basic pattern.

The basic purpose of this Guide is to provide means of measuring plant costs and efficiencies. Accordingly, this Part - being limited to procedures for reporting and controlling costs for the larger companies - does not discuss the preparation of a sales forecast. However, no difficulty should be encountered in integrating a sales forecast with the expense budget outlined in this Part.

## BASIC ELEMENTS IN THE CONTROL SYSTEM

### Statement of Income

The control system outlined in this Part of the Guide begins, as in Parts I and II, with a conventional Statement of Income - figure 16. This statement shows the overall results of operations as recorded in the company's general accounting records and provides year-to-date results and comparison with the prior year.

### Summary of Cost Performance

A Summary of Cost Performance report, figure 38, is provided to supplement the Statement of Income. This report serves to point out performance in controlling important elements of labor and overhead costs in relation to pre-determined budgets and standards.

### Basic Control Reports

Three basic control reports are prepared:

- Plant Report, figure 32
- Weekly Cost Control Report, figure 34
- Overhead Spending Variance Report, figure 37

The weekly Cost Control Report emphasizes control of labor costs. However, provision has been made on the report for the inclusion of material usage data as optional information.

These reports provide specific data on the important points of control in such terms that the types of actions required to correct unfavorable performance are readily apparent. The basic control reports are in turn summarized on the Summary of Cost Performance and these data relate directly to the Statement of Income. Thus, an integrated reporting system has been designed.

## UNDERLYING SYSTEM REQUIREMENTS

Achievement of the type of control reporting system outlined above requires three major steps:

1. Development of budgets.
2. Development of process and product costs.
3. Summarization of operating and cost data and preparation of reports.

This sequence is generally followed in this Part III of the Guide.

First, a typical Statement of Income is presented, together with general instructions for its preparation.



Then, a procedure is outlined for developing budgets of processing costs. Instructions are provided for determining cost centers, compiling direct and indirect labor budgets, and departmental expense budgets, and consolidating them into an overall plant budget. Procedures are illustrated for distributing overhead to the primary processing cost centers and computing labor and overhead rates for measuring efficiency and for applying labor and overhead costs to processes and products.

Budget preparation is followed by a description of a method of determining standard unit costs for particular processes (dressing, eviscerating, packing, etc.) and products (cut-up broilers, thighs and drumsticks, etc.) for cost control and price and profitability determination purposes.

Finally, the preparation of the various basic control reports and Summary of Cost Performance is outlined. The procedure consists of bringing together actual production and cost data and relating them to the budget and to process and product standard costs.

This Part of the Guide concludes with suggestions for utilizing report data and with a discussion of certain alternatives and exceptions to the basic pattern of accounting and reporting previously covered.

The hypothetical plant used in illustrating the budgetary procedure has two processing conveyor lines, normally operates two shifts of eight hours each (except the Cutting department which operates one shift) 5 days a week, and expects to operate at 85 per cent of capacity, that is, the equivalent of 225 out of 260 available working days a year. The company hauls birds from the farm to the plant; dresses and eviscerates all birds; has facilities for shipping whole birds, half birds, cut-up birds, and various parts, including giblets in various sized packages, in ice-pack containers and in the frozen state. The product line includes broilers, hens, and turkey fryers or roasters. The company ships under its own label and under labels of three other marketing firms.

#### FLOW OF ACCOUNTING DATA

Figure 15 is a three-part diagram of the flow of accounting data from sources to results in developing budgets; process and product unit costs; and weekly and monthly reports.

#### STATEMENT OF INCOME

Figure 16 illustrates a conventional Statement of Income. This statement is similar to that shown in Part II of this Guide. The additional operating cost information available under this budgetary system, however, precludes the necessity of showing financial information by bird categories. This statement and the Balance Sheet represent the basic financial reports of the plant or company.

FANCY POULTRY CO.  
ANYWHERE, U. S. A.

FLOW CHART

DEVELOPMENT OF LABOR AND OVERHEAD BUDGETS AND HOURLY RATES

SOURCE DATA

(NOT ILLUSTRATED)

WORKSHEETS

BUDGETS

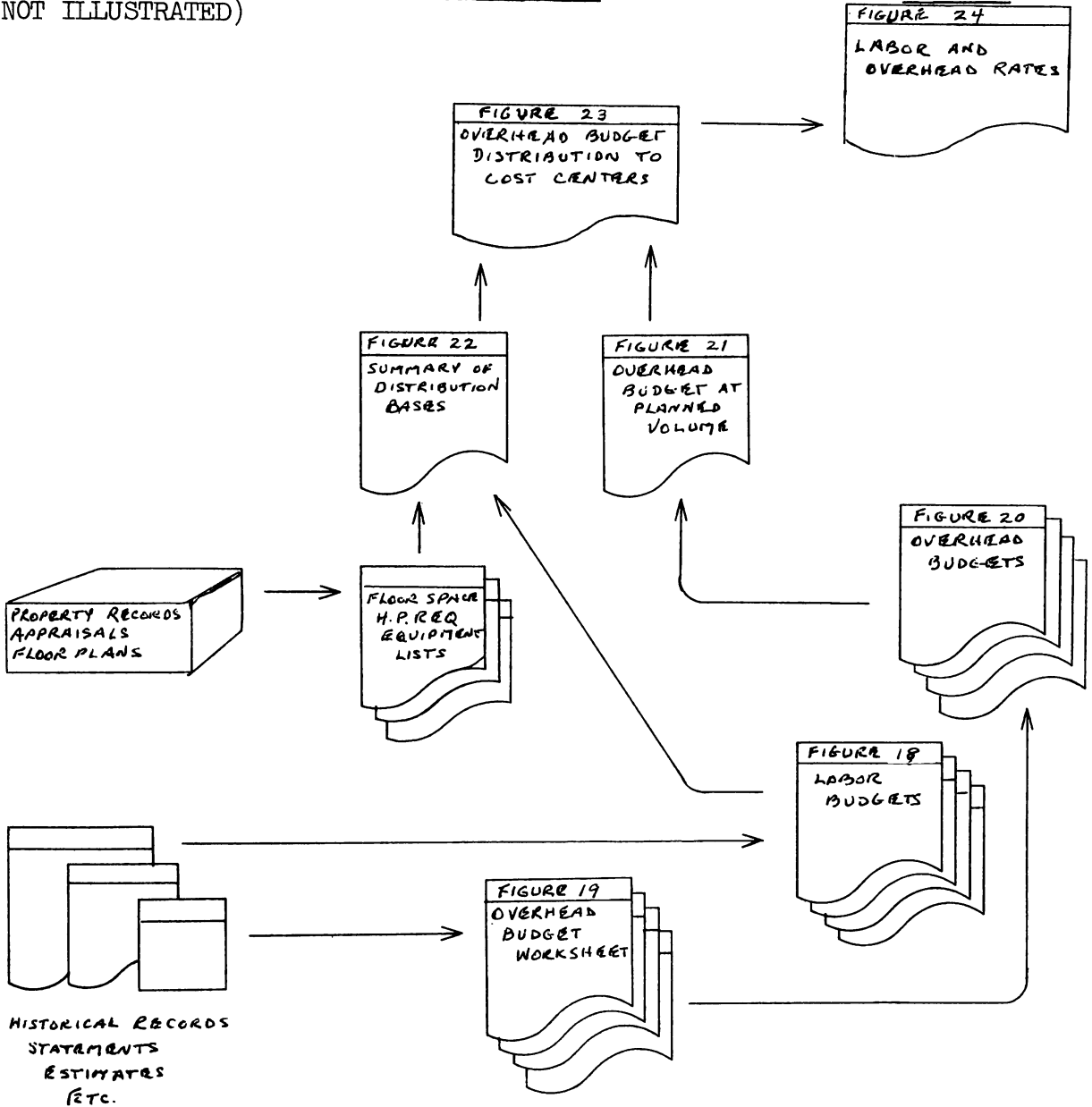


Figure 15, part 1 of 3

FANCY POULTRY CO.  
ANYWHERE, U. S. A.

FLOW CHART

DEVELOPMENT OF PROCESS AND PRODUCT UNIT COSTS

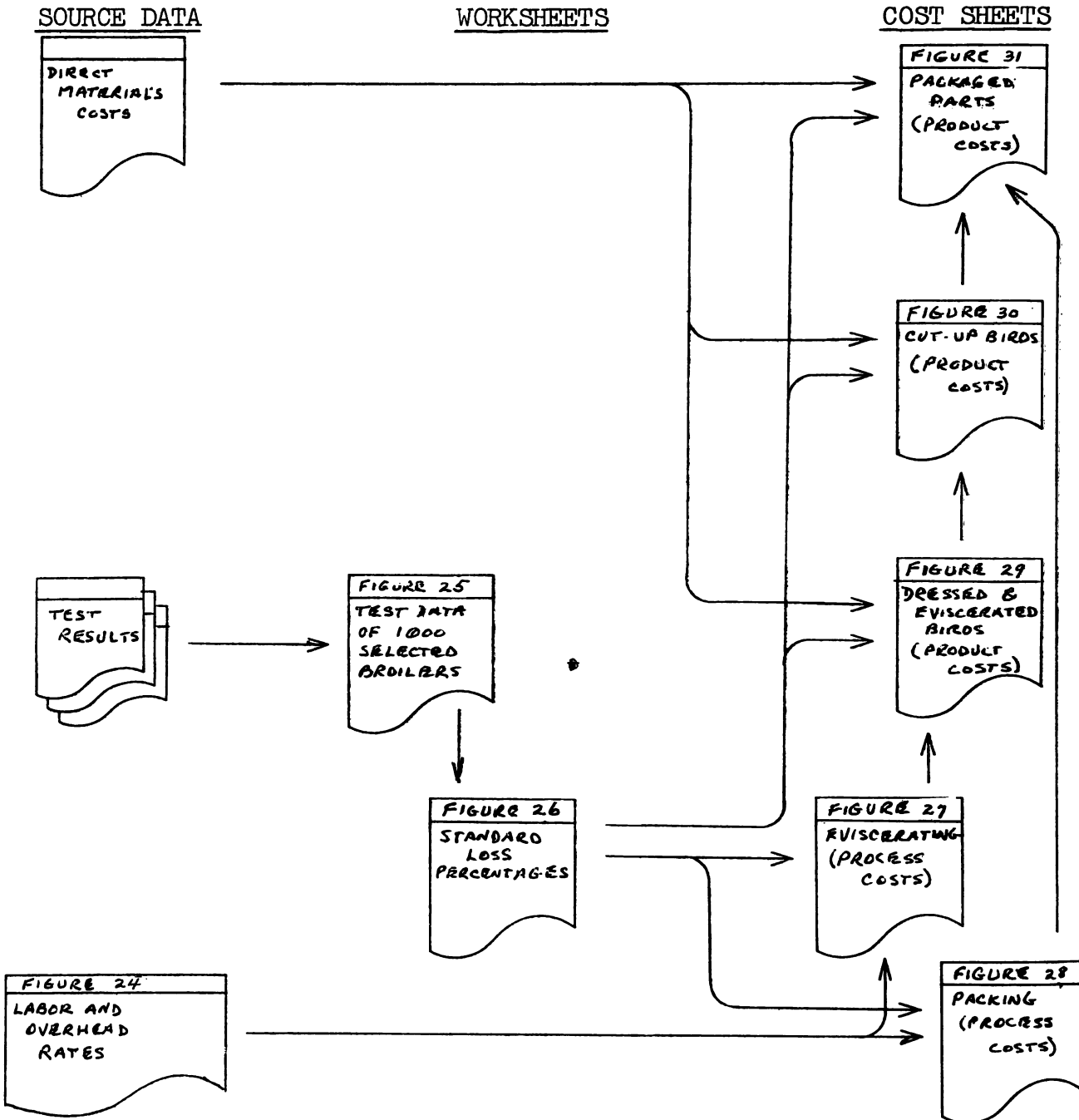


Figure 15, part 2 of 3

FANCY POULTRY CO.  
ANYWHERE, U. S. A.

FLOW CHART

DEVELOPMENT OF WEEKLY AND MONTHLY REPORTS

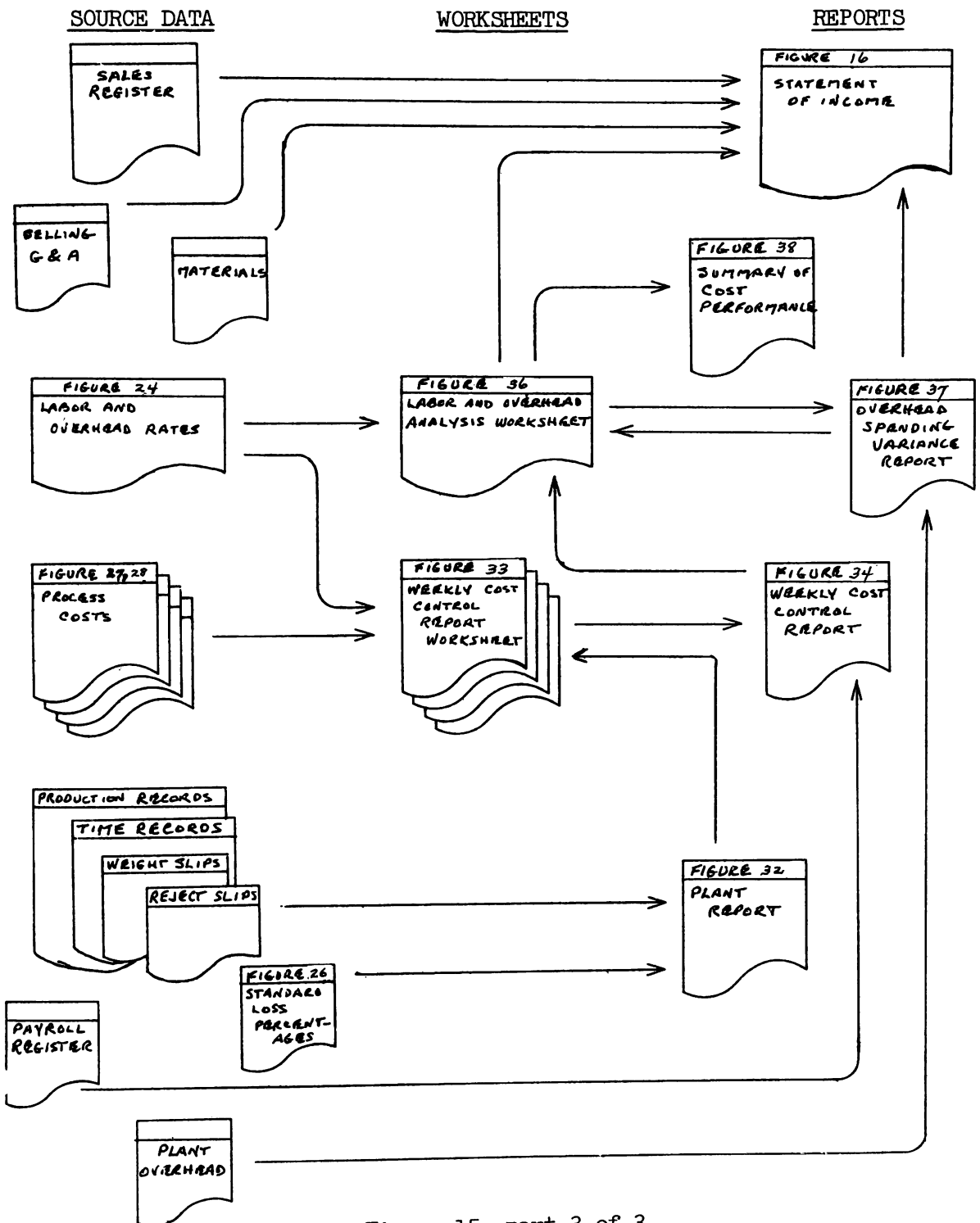


Figure 15, part 3 of 3

FANCY POULTRY CO.  
ANYWHERE, U.S.A.

STATEMENT OF INCOME,  
MARCH 19

.....CURRENT MONTH.....				.....YEAR-TO-DATE.....			
.....LAST YEAR.....		.....THIS YEAR.....		.....THIS YEAR.....		.....LAST YEAR.....	
% TO SALES	AMOUNT	% TO SALES	AMOUNT	% TO SALES	AMOUNT	% TO SALES	AMOUNT
_____ %	\$ _____	100.00%	\$869,452.70	_____ %	\$ _____	_____ %	_____
			SALES.....				
			COST OF SALES:				
			Materials:				
			Inventory - beginning.....				
			565,975.20				
			31,815.60				
			607,416.28				
			8,493.21				
		68.89	598,923.07				
			Sub-total.....				
			Inventory - ending.....				
			Net materials cost.....				
			Labor:				
			Inventory - beginning.....				
			56,922.75				
			Payrolls.....				
			58,290.94				
			1,082.91				
		6.58	57,208.03				
			Net labor cost.....				
			Overhead:				
			Inventory - beginning.....				
			Expenses:				
			Supervision and indirect labor.....				
			6,648.30				
			Other related payroll costs.....				
			4,081.40				
			Supplies and facilities.....				
			15,032.80				
			General expenses.....				
			25,002.05				
			Fixed charges.....				
			57,285.05				
			Total expenses.....				
			58,318.32				
			983.41				
			Inventory - ending.....				
		6.59	57,334.91				
		82.06	713,466.01				
		17.94	155,986.69				
		4.40	38,247.80				
		3.04	26,452.90				
			Total selling and G & A				
		7.44	64,700.70				
			expenses.....				
_____ %	\$ _____	10.50%	\$ 91,285.99	_____ %	\$ _____	_____ %	\$ _____
			INCOME BEFORE TAXES .....				

Figure 16

## REPORT CONTENT

This report summarizes sales and operating results for the month and year-to-date for both the current year and the preceding years. Material, labor, and overhead costs incurred are adjusted for the amounts of these cost elements in opening and closing inventories, thus providing for comparison as percentages of sales.

## REPORT PREPARATION

The following are the sources of data used in preparing this report:

Sales. The net of invoices, returns, and allowances, etc., as summarized from the appropriate general ledger accounts.

Cost of Sales. Expenditures during the current month with appropriate adjustments for beginning and end-of-month inventory balances, if any, as obtained from general ledger accounts.

Materials - Birds, and

Materials - Other. Obtained from general ledger controlling accounts for birds placed on dressing hangers or for packing materials consumed.

Labor. Obtained from the applicable general ledger accounts for direct labor. This amount should agree with the total payroll expended as shown on the Summary of Cost Performance, figure 38.

Overhead. Summary of amounts accumulated in the applicable general ledger expense accounts classified in accordance with the Chart of Accounts shown in Appendix 1 to this Guide. The total of overhead costs should agree with total overhead on the Summary of Cost Performance, figure 38.

Gross Profit. Arrived at by subtraction.

Selling Expenses and

General and Administration Expenses. Summarized from the various general ledger expense accounts classified according to the Chart of Accounts in Appendix 1 to this Guide.

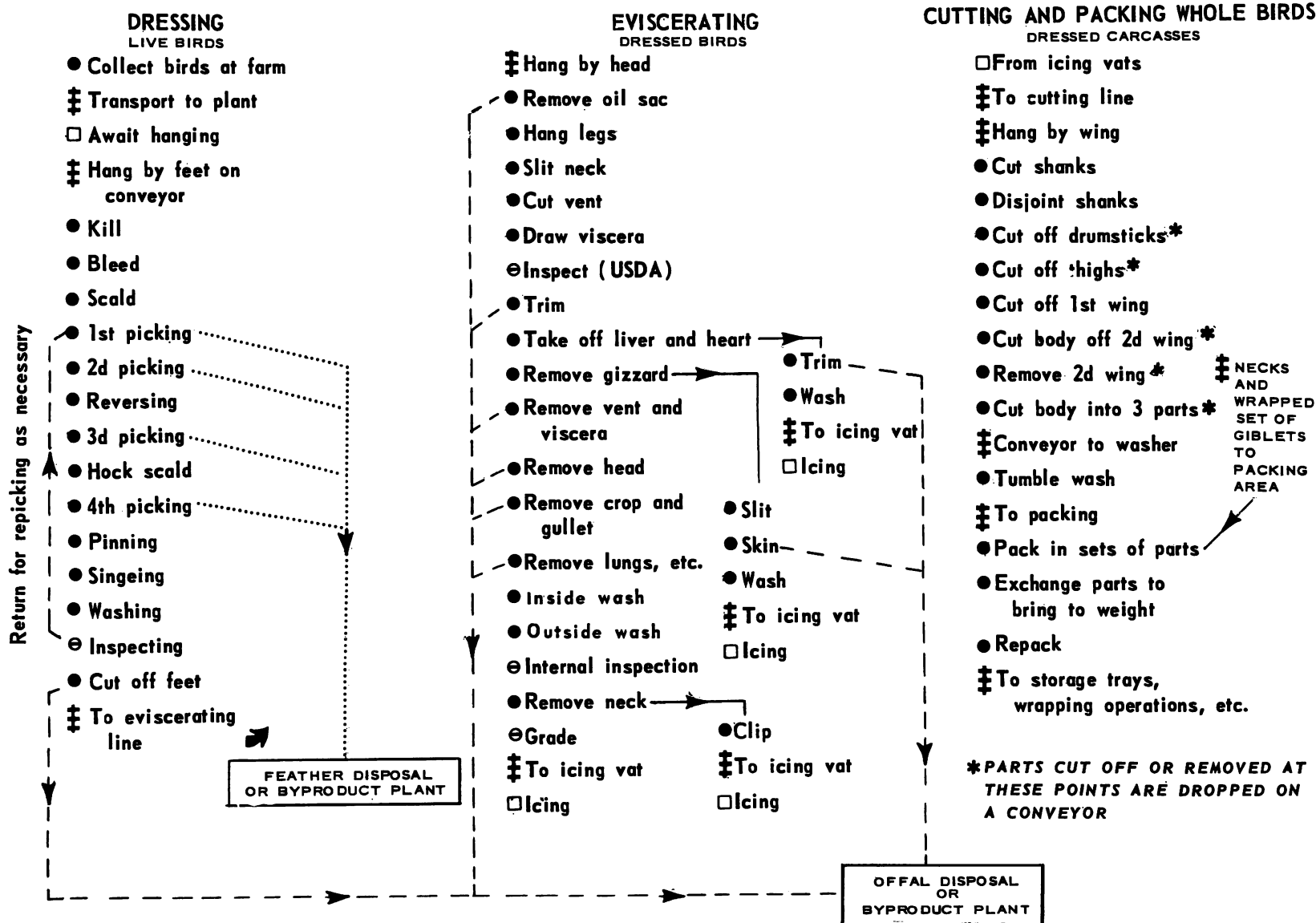
Net Income. Determined by subtraction.

## DEVELOPING THE BUDGET

This section outlines a procedure for developing budgets for the labor and overhead costs involved in processing operations. These procedures are based on an approach of establishing a budget of a "typical month" of 4-1/3 weeks. Once established, the budget structure need not be changed unless the underlying factors change enough to render budget data unrealistic. The budget

# TYPICAL FLOW OF OPERATIONS IN POULTRY PROCESSING

Key: ● Operation    ⚡ Transportation    □ Storage    ⊖ Inspection



# TYPICAL FLOW OF OPERATIONS IN POULTRY PROCESSING (CONTINUED)

Key :    ● Operation    ‡ Transportation    □ Storage    ⊖ Inspection

## CUTTING AND PACKING BIRD PARTS

### DRESSED CARCASSES

- From icing vats
- ‡ To sorter
- ⊖ Sort by weight
- ‡ To icing vat
- Icing vat
- ‡ To cutting line
- ‡ Hang by hocks
- Score back
- Cut breast
- Cut neck skin
- Cut around back
- Cut off breast skin

- Split breast
- Cut 1st shank
- Cut off 1st wing
- Cut off 2d wing
- Pull 2 breast sections
- Pull 1st leg and rehang
- Cut off 1st thigh
- Cut 2d shank
- Pull off back (discard)
- Cut off 2d thigh
- Drop drumsticks
- ‡ Conveyor to washer

- Tumble wash
- ‡ To packing area
- Sort, pack, and weigh parts
- ‡ To storage trays
- In racks
- ‡ To wrapper
- Wrap
- ‡ To racks
- ‡ To freezer

OFFAL DISPOSAL  
OR  
BYPRODUCTS PLANT

### ICED GIBLETS

- From icing vats
- ‡ To packing area
- Assemble in sets
- Wrap sets
- Pack with whole, or cut birds

### ICED LIVERS AND HEARTS

- From icing vats
- ‡ To packing area
- Sort
- Pack in cartons
- ‡ To wrapping, etc.
- Wrap
- ‡ To storage and shipping

### ICED GIZZARDS

- Icing
- ‡ To packing area
- Pack in cartons
- ‡ To wrapping, etc.
- Wrap
- ‡ To storage and shipping

### ICED NECKS

- Icing
- ‡ To packing area
- Pack in bulk cases
- ‡ To storage and shipping

### DRESSED CARCASSES SORTED BY WEIGHT

- Icing
- Cut down center
- ‡ To washer
- Tumble wash
- ‡ To packing
- Wrap single halves
- Pack in bulk cases
- ‡ To storage and shipping

Figure 17



and predetermined costs based on these budgets would be subject to revision when major changes occur in wage rates, equipment, processing methods, planned level of operating volume, or organizational structure, or when investigation of continuing and significant cost and yield variances indicates that original premises have become unrealistic.

The basic steps in budget preparation discussed in the following paragraphs, include:

1. Determining cost centers through use of an organization chart and a process flow chart.
2. Compiling direct and indirect labor budgets.
3. Developing overhead budgets for departments and the overall plant including distribution of overhead to primary processing cost centers.
4. Computation of labor and overhead rates.

### ORGANIZATION

An organization chart of the plant or company should be prepared, together with descriptions of the authority and responsibility assigned to key positions. The separation of functions assigned to the several positions should be sufficiently definitive to permit departmental budgets to be prepared that are clearly the responsibility of one position in the organization plan. Duplicate budgeting of expense items will thus be avoided and responsibility for cost performance will be clear.

### PROCESS FLOW CHART

The next step in the budgetary procedure is preparation of a process flow chart. A typical process flow chart is illustrated in figure 17. This process flow chart covers all steps in the operation from collecting birds at the farm through to storage and shipping and includes such sub-processes as pertain to giblets, offal disposal, etc.

A process flow chart enables the accounting department to visualize the various processing operations and their sequence. When considered in combination with the organization chart, the process flow chart provides the basis for establishing cost centers for accounting purposes. The chart as well as the related accounting and reporting procedures should be revised as changes in operations alter the process flow. In this manner, the accounting system will continue to reflect actual physical plant operations.

### COST CENTERS

A processing cost center is one or more related processing steps, or groups of related processing steps. The essential criteria for determining whether a processing step or group of steps comprise a cost center include: Whether costs can practicably be assigned to those particular processes;

whether costs which are assigned are applicable generally to all units processed; and whether the processes represent a group of functions under the control of one particular position in the organization. The number of cost centers to be established depends, in addition to these criteria, on the amount of processing costs involved and requires use of judgment.

The cost centers to be used in the illustrations in this Part of the Guide are listed below:

<u>Cost Center</u>	<u>Beginning Process Step</u>	<u>Ending Process Step</u>
Dressing	Hang live birds	Cut off feet
Eviscerating	Hang by head	Grade carcass Clip neck Wash giblets
Cutting - Parts (for packing parts)	Sort by weight	Tumble wash
Cutting - Whole (for whole birds in cut-up state)	Hang by wing	Tumble wash
Cutting - Halves	Cut down center	Tumble wash
Packing	Transport to packing area	Place package on racks; pack in bulk, etc.

The above list by no means exhausts the possibilities of useful cost centers. In some companies these cost centers may properly be combined and in others expanded into additional cost centers such as giblet processing, precooking and canning as appropriate. Occasionally some processing steps, which in themselves could be considered cost centers, should be segregated. In a processing plant, for example, with several dressing lines, processing of one type of bird may be restricted to a single conveyor line. Consequently, this particular dressing line should be set up as an individual cost center to obtain proper costs of this type of bird and to avoid distortion of the costs of birds processed on other lines.

## LABOR BUDGETS

### Direct Labor Budget

A direct labor budget is required for each processing department. A typical direct labor budget - for the dressing department in this instance - is illustrated in figure 18. Preparation of this budget requires the following steps:

28 HOURS - SHIFTS / DAY  
5 DAYS / WEEK  
45 WEEKS / YEAR 85 %  
40 HOURS / WEEK

Direct

DEPARTMENT Dressing  
SUPERVISOR J. Brown  
PERIOD \_\_\_\_\_ 18 \_\_\_\_\_

Figure 18

1. Develop a manning table or list of jobs and number of employees required for operating the department under planned conditions.
2. Apply labor rates, hours, and shift premiums for each job classification.
3. Arrive at a weekly labor cost for the department and convert to a monthly labor cost on the basis of four and one-third weeks per month.
4. Reduce the monthly labor cost at full operation to the planned or normal level of operation - in this instance 85%, or 225 days of operation out of the available 260 working days per year.

An extra space is provided under "Base Wages Per" caption of Figure 18 for entry of an adjustment factor if such is required, as under an incentive pay plan.

#### Indirect Labor Budget (not illustrated)

An indirect labor budget is required for all indirect jobs (excluding supervisory positions) and is prepared in the same manner as the Direct Labor Budget. A plant-wide budget or budgets for one or more individual departments may be required. In the event an indirect labor job is found to service more than one department the cost should be allocated between departments on an appropriate basis.

#### OVERHEAD BUDGETS

Following preparation of labor budgets, departmental overhead budgets should be compiled. These budgets should cover all expenses applicable to departments and include indirect labor budget details prepared as described above.

#### Overhead Budget Worksheet

Figure 19 is an example of an Overhead Budget Worksheet for the direct overhead expenses of an Eviscerating Department. A monthly budget figure has been developed for each of the various items of departmental expense. These expenses are then adjusted to the planned level of operations - in this instance to 85 percent, or 225 days of operation out of the available 260 working days per year. Those expenses which are considered fixed are carried over intact from the "Monthly" column to the "85%" column. Fixed expenses are included in total as they are planned to be absorbed at the 85 percent level of operation. Expenses considered variable are reduced to 85 percent. For example, the salary of Mr. Black, the first shift supervisor, is considered to be fixed whereas the salary of Mr. Green, the second shift supervisor, is dependent upon time worked and is therefore treated as a variable expense.

OVERHEAD BUDGET WORKSHEET

Activity - 85%

DEPARTMENT Conservations

PERIOD \_\_\_\_\_

ACCOUNT Various

ITEMS	QUANTITY		PER <u>Month</u>	AMOUNT <u>@ 85%</u>		EXTRAS	REMARKS
<u>Salaries - Supervision</u>							
R. Black - 1 <sup>st</sup> Shift			650 00	650 00	75 00		Profit-sharing bonus
R. Green - 2 <sup>nd</sup> Shift			500 00	425 00			(Paid only for days worked)
Totals				1075 00	75 00		
<u>Indirect Labor</u>							
From Budget Detail				635 00			Mechanics - fixed - \$250 00
<u>Water</u>				65 00			Based on x gallons per day @ 14 per thousand gallons
<u>Departmental Supplies</u>							
Knives	100	ea	85 00				
Pruners	160	"	40 00				
Sprayers	50	"	50 00				
Rubber Gloves	270	"	135 00				
Miscellaneous			35 00	345 00			
<u>Overtime Premium</u>				25 00			Estimate
<u>Travel Expense</u>				20 00			R. Black to annual meeting of Poultry Promoters Association
(etc)							

Figure 19

DEPARTMENT Excavating  
SUPERVISOR R Black  
PERIOD \_\_\_\_\_ 10 \_\_\_\_\_

### OVERHEAD BUDGET

Figure 20

## Department Budgets

Data developed on the Overhead Budget Worksheet, Figure 19, are summarized on an Overhead Budget form as illustrated in Figure 20 for the Eviscerating Department used in this example. All direct departmental expenses are shown in total and segregated between fixed and variable amounts. In accounts such as water, departmental supplies, and overtime premiums, which are generally variable, a nominal amount has been classified as a fixed expense on the premise that a certain portion of such expenses are necessary for even minimum departmental operation. Such classifications are largely decided upon the basis of past experience and judgment in the circumstances. Specific illustrations have not been shown for budgeting related payroll costs such as group insurance, F.I.C.A., and taxes, as such items generally follow payrolls and can be budgeted without supporting worksheets.

In addition to budgets for each of the various departments in the plant, a separate budget for General Plant Overhead Costs is usually desirable. This budget will cover such expenses as taxes and insurance that are applicable to the plant as a whole rather than to specific departments. Such overhead costs are the responsibility of the plant superintendent or manager rather than department supervisors.

### Overhead Budget at Planned Volume

Once the individual overhead budgets are completed, they are entered in appropriate columns on a summary as illustrated in figure 21. Next, the individual accounts are cross-totaled to the "Plant Budget per Month - Total" column and the individual account fixed and variable amounts, from each budget, are totaled and entered in their respective "Plant Budget per Month" columns. Each set of columns - individual departments and the fixed-variable - are then cross-footed to the "Total" column.

The amounts in the "General Plant" column are carried to appropriate columns under "Allocation to Distribution Basis." Suggested bases are found in Appendix 1 for the various overhead expense accounts. These columns are cross-footed to agree with the total of the "General Plant" column.

The total amounts budgeted per month for the three service departments are transferred to the column for an appropriate basis for distribution. Since the activities of the Cost and Payroll and Personnel departments are closely identified with employees, the budget totals for these departments are transferred to the "Payroll" column. The activity of the Plant Maintenance department consists largely of repairs to the plant buildings and, therefore, the total of this department is transferred to the "Floor Space" column. The column totals are then adjusted for these transfers and cross-footed.

### Distribution of Overhead

The next steps are to distribute, by allocation, the General Plant and indirect department expenses (such as Cost and Payroll and Plant Maintenance) to the direct processing departments of Dressing, Eviscerating, Cutting, and Packing and then to cost centers. In this illustration only the Cutting

FANCY POULTRY CO.  
ANYWHERE, U.S.A.

OVERHEAD BUDGET AT PLANNED VOLUME  
(AND ALLOCATION TO DISTRIBUTION BASES)

ACCOUNTS	PLANT BUDGET PER MONTH			.....ALLOCATION TO DISTRIBUTION BASES.....										DEPARTMENT DIRECT		PLANT MAINTEN- ANCE
	.....AT 85% ACTIVITY.....			GENERAL PLANT	PAYROLL	FLOOR SPACE	H.P. REQUIRE- MENTS	EQUIPMENT VALUES BASIC EQUALIZED	DRESS- ING	EVISCER- ATING	CUTTING	PACKING	COST AND PAYROLL	PERSONNEL		
	TOTAL	FIXED	VARIABLE													
SUPERVISION AND INDIRECT																
LABOR:																
Salaries - Supervision ...	\$4,860	\$2,200	\$2,660	\$ 900	\$ 900				\$ 680	\$1,075	\$ 340	\$ 340	\$ 500	\$ 600		\$ 425
" - Secretarial ...	250	250		250	250											
" - Clerical .....	700	250	450	250	250											
Bonuses - Salaried													250	200		
personnel .....	375		375	110	110											
Wages - Indirect labor ...	2,135	775	1,360	225		\$ 225			50	75	25	25	30	35		25
OTHER PAYROLL COSTS:									350	635						925
Overtime premium .....	85	30	55						15	25	10	10				25
Shift premium .....	1,708		1,708	1,698	1,698											10
Vacation pay .....	2,140		2,140	2,115	2,115											25
Group insurance .....	1,680	200	1,480	1,670	1,670											10
S. S. taxes .....	1,610	282	1,328	1,600	1,600											10
Unemployment taxes .....	522		522	517	517											5
SUPPLIES AND FACILITIES:																
Fuels .....	1,250	350	900	450		450			800							
Light and power .....	195	15	180	195			\$195									
Water ..	185	50	135	40		40			40							
General supplies .....	340	300	40	340	340					65	40					
Departmental supplies ....	1,240	210	1,030						10	345	480	205	25	25		150
All other .....	39,195	27,273	11,922	35,454	11,639	1,310		\$14,085	\$8,420	590	46	1,463	1,111	180	176	175
<hr/>																
PLANT TOTAL .....	58,470	32,185	26,285	45,814	21,089	2,025	195	14,085	8,420	2,535	2,266	2,358	1,691	985	1,036	1,785
<hr/>																
ALLOCATIONS OF SERVICE																
DEPARTMENTS:																
Cost and payroll .....				985	985											
Personnel .....				1,036	1,036									(985)		
Plant maintenance .....				1,785		1,785									(1,036)	
<hr/>																
PLANT TOTAL .....	\$58,470	\$32,185	\$26,285	\$49,620	\$23,110	\$3,810	\$195	\$14,085	\$8,420	\$2,535	\$2,266	\$2,358	\$1,691	\$ -	\$ -	\$ -
<hr/>																

Figure 21



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Anywhere, U. S. A.

SUMMARY OF DISTRIBUTION BASES  
FOR OVERHEAD ALLOCATIONS

PLANT Pleasantville  
PERIOD \_\_\_\_\_ 10 \_\_\_\_\_

COST CENTER	PLAN- NED NO. SHIFTS	DIRECT LABOR		FLOOR SPACE		H. P. REQUIREMENTS			EQUIPMENT VALUES			
		PAYROLL	%	SQ. FEET	%	H. P. IN PLACE	EQUALIZED DEMAND	%	IN PLACE		EQUALIZED	
									VALUES	%	VALUES	%
		\$							\$		\$	
Dressing	2	15 853	23.44	10 532	39.10	110	220	73.10	80 520	53.39	161 040	54.68
Eviscerating	2	36 990	54.68	5 824	21.62	15	30	9.96	38 250	25.36	76 500	25.98
Cutting - Parts	2	6 312	9.33	1 820	6.76	5	10	3.32	5 250	3.48	10 500	3.57
Cutting - Whole	2	4 218	6.24	1 600	5.94	5	10	3.32	5 400	3.58	10 800	3.67
Cutting - Half-Birds	1	736	1.09	960	3.56	7	7	2.33	7 200	4.77	7 200	2.45
Packing	2	3 533	5.22	6 200	23.02	12	24	7.97	14 200	9.42	28 400	9.65
Plant Totals		\$ 67 642	100.00	26 936	100.00		301	100.00	\$ 150 820	100.00	\$ 294 440	100.00

Figure 22

Department has been further subdivided into cost centers - Cutting-Parts, Cutting-Whole Birds, and Cutting-Half Birds.

A Summary of Distribution Bases for Overhead Allocations is illustrated in figure 22. The development of these distribution bases is according to procedures outlined in Part II of this Guide and hence are not repeated here.

Figure 23, Overhead Distribution to Cost Centers, is used for distributing all budgeted plant overhead expenses to the processing cost centers. The distribution is made in the following manner:

1. Cost centers are listed with a line provided for subtotaling the Cutting Department centers.
2. Distribution percentages are transferred appropriately from the Summary of Distribution Bases for Overhead Allocations (figure 22).
3. The final Plant Total dollar amounts are transferred appropriately from the columns (except the "General Plant" column) of the Overhead Budget at Planned Volume, etc., (figure 21). Also, the final totals of processing departments are transferred from figure 21, and are entered vertically in the "Cost Center Direct" column of figure 23. (The amount for the Cutting Department is entered on the "Sub-Tot-Cutting" line.)
4. The totals - except those in the "Cost Center Direct" column - are distributed on the basis of the corresponding percentages.
5. Budgeted direct labor for the three Cutting cost centers are transferred from the Summary of Distribution Bases, etc. (figure 22) to the "Amt." sub-column of the "Cutting Dept. Distribution" section of figure 23. The percentage relationships of these three amounts to the total Cutting department Direct Labor - \$11,266.00 - are computed and entered in the "%" column.
6. The Cutting Department Sub-total amount - \$2,358.00 - is distributed, by the three percentages computed in step 5, to the three Cutting Cost Centers.
7. Each line of overhead amounts is added back to the "Total Overhead per Month" column and the entire schedule is cross-footed.

The completed Overhead Budget Distribution To Cost Centers - figure 23 - represents the total budget covering normal plant operations for a month at a planned activity of 85%. All plant overhead has been assigned to processing departments and cost centers. These data are then used in developing overhead rates for assigning budgeted costs to processes and products.

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Anywhere, U. S. A.

PLANT Pleasantville  
PERIOD \_\_\_\_\_ 19 \_\_\_\_\_

# OVERHEAD BUDGET DISTRIBUTION TO COST CENTERS

COST CENTER	TOTAL OVERHEAD PER MONTH		DIRECT LABOR		FLOOR SPACE		H. P. REQUIR.		EQUIPMENT VALUE				COST. CENTER DIRECT		CUTTING DEPT. DISTRIBUTION NOTE (A)	
									IN PLACE		EQUALIZED					
									%	AMT.	%	AMT.				
	\$		\$		\$		\$		\$		\$		\$			
Dressing	2170830		23.44	541699	39.10	148971	73.10	14256	53.39	751998	54.68	460406	253500			
Eviscerating	2150517		54.68	1263655	21.62	82372	9.96	1942	25.36	357196	25.98	218752	226600		Direct Labor	
															%	Am't.
Cutting - Parts	453212		9.33	215616	6.76	25756	3.32	647	3.48	49016	3.57	30059	132118		56.03	631200
Cutting - Whole Birds	337093		6.24	144206	5.94	22631	3.32	647	3.58	50424	3.67	30901	88284		27.44	421800
Cutting - 1/2 Birds	142420		1.09	25190	3.56	13564	2.33	454	4.77	67185	2.45	20629	15398		6.53	73600
Sub-Tot. - Cutting													235800		100.00	126600
Packing	592928		5.22	120634	23.02	87706	7.97	1554	9.42	132681	9.65	81253	169100			
Plant Totals	\$5847000		100.00	2311000	100.00	381000	100.00	19500	100.00	1408500	100.00	842000	\$885000			

NOTE (A) - CUTTING DEPARTMENT OVERHEAD - DIRECT (\$2358.00) IS DISTRIBUTED  
TO EACH COST CENTER ON THE BASIS OF DIRECT LABOR

Figure 23

PLANT Pleasantville

PERIOD \_\_\_\_\_ 19 \_\_\_\_\_

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# LABOR AND OVERHEAD COST RATES (PER MAN OR MACHINE HOUR)

COST CENTER	NO. MACH- INES	NO. SHIFTS	BASE UNIT	BASE JOB		NUMBER OF UNITS			PER <u>Month</u>		PER UNIT	
				TITLE	NO. EMPLOY- EES	/WEEK ( <u>40</u> HOURS)	PER <u>Month</u>		LABOR	O'HEAD	LABOR	O'HEAD
							@ 100%	@ <u>85</u> %				
									\$	\$	\$	\$
<u>Dressing</u>	<u>2</u>	<u>2</u>	<u>Conveyer - Hour</u>			<u>160</u>	<u>693</u>	<u>589</u>	<u>15853</u>	<u>21708</u>	<u>26.915</u>	<u>36.856</u>
<u>Eviscerating</u>	<u>2</u>	<u>2</u>	<u>"</u>			<u>160</u>	<u>693</u>	<u>589</u>	<u>36990</u>	<u>21505</u>	<u>62.801</u>	<u>36.511</u>
<u>Cut. - Parts</u>	<u>1</u>	<u>2</u>	<u>"</u>			<u>80</u>	<u>347</u>	<u>295</u>	<u>6312</u>	<u>4532</u>	<u>21.397</u>	<u>15.363</u>
<u>Cut. - Whole</u>	<u>1</u>	<u>2</u>	<u>"</u>			<u>80</u>	<u>347</u>	<u>295</u>	<u>4218</u>	<u>3371</u>	<u>14.298</u>	<u>11.427</u>
<u>Cut. - Halves</u>		<u>1</u>	<u>Man. Hour Cutter</u>		<u>1</u>	<u>40</u>	<u>173</u>	<u>147</u>	<u>736</u>	<u>1424</u>	<u>5.007</u>	<u>9.687</u>
<u>Packing</u>		<u>2</u>	<u>" "</u>	<u>Packer</u>	<u>8</u>	<u>640</u>	<u>2773</u>	<u>2357</u>	<u>3533</u>	<u>5930</u>	<u>1.499</u>	<u>2.516</u>
<u>Plant Totals</u>									<u>\$67642</u>	<u>\$58470</u>		

Figure 24

## LABOR AND OVERHEAD COST RATES (PER MAN OR MACHINE HOUR)

The development of rates for use in control reporting and cost estimating is illustrated in figure 24, Labor and Overhead Rates (Per Man or Machine Hour)

### Worksheet Content

This worksheet brings together budgeted monthly labor and overhead for each direct processing cost center and relates it to a base unit - man or machine hour - for that cost center. The result is an average budgeted cost per unit.

### Worksheet Preparation

The following sources of data have been used:

Number of Machines,

Number of Planned Shifts, and

Base Unit. Based upon the physical characteristics of the operation and planned activity. Processing activities are paced by line-conveyors except that Cutting into half-birds and Packing are paced by manual effort. Therefore, the base unit for the first four cost centers is a conveyor-hour, and for Cutting into half-birds and Packing the base unit is the man-hour.

Base Jobs. In the Cutting into half-birds and Packing cost centers, the Cutter and Packer jobs, respectively, were selected as base jobs for cost rate determinations. There are other jobs in these Departments and Cost Centers, but all production must go through these basic operations. The number of employees normally engaged in these selected activities is also shown.

Number of Units. Quantities are extensions. The number of units a week is a multiplication of the number of machines or employees, times the number of shifts, times 40 hours a shift. The number of units per month is the conversion of weekly units, first, to a monthly basis at  $4\frac{1}{3}$  weeks per month and, second, to the 85% planned volume of activity.

Per Month - Labor - is taken from the Summary of Distribution Bases for Overhead Allocations (figure 22).

Per Month - Overhead - is taken from Overhead Budget Distribution to Cost Centers (figure 23).

Per Unit Labor, and

Per Unit Overhead - are determined by dividing the monthly budgeted labor and overhead by the number of units per month at 85%.

As previously stated, the 85% level of activity requires that fixed overhead for 260 days be absorbed in 225 days. The calculations in figure 24 effectively insure the absorption, during the active periods, of the 15% of

fixed charges not absorbed during idle periods. Also the calculations insure that 15% of fixed charges are included in the product cost estimates.

## RESULTS OF BUDGETING PROCEDURES

The procedures illustrated in this section result in department, cost center, and plant budgets converted to unit costs (per man or machine hour) for each processing activity. Budgeted man or machine hour cost data are then used to develop process and product costs per unit of processing output. These unit budgeted costs, when related to actual processing activity, result in the allowed costs to be used in measuring cost performance.

### DEVELOPMENT OF PROCESS AND PRODUCT COSTS

This section outlines procedures for converting budgeted unit (man or machine hour) rates to process and product costs. Normally, budgeted costs for each of the various processes and products expected to be active during the period are computed in advance. Budgeted costs of additional processes and products can, however, be introduced at any time.

Product and process cost data serve two principal purposes: (1) for use in conjunction with production data in computations required in preparing control reports and (2) for use in making decisions regarding prices and product profitability.

The losses considered a normal part of the production process constitute an important factor in developing budgeted costs of processes and products. This section of the Guide, therefore, begins with a discussion of the development of standard loss percentages. Procedures are then illustrated for computing budgeted labor and overhead costs of processes (eviscerating and packing) and of products (eviscerated birds, cut-up birds 2-4/16, thighs and drumsticks).

### STANDARD LOSS PERCENTAGES

Nonedible and other processing losses are costly and, as with other elements of cost, should be subjected to budgetary procedure and control. Alternative methods of budgeting processing losses are available. Standard loss percentages shown in figure 26, illustrate the results of one method, based upon a testing procedure.

#### Test Data of 1,000 Selected Broilers

The first column of loss percentages in figure 26 is assumed to have been obtained from a segregated test run, through processing operations of 1,000 selected live birds, each bird averaging approximately 2-4/16 pounds. Birds which satisfactorily completed the dressing operation were weighed and counted. During evisceration, the number of birds rejected by Department of Agriculture

inspectors were recorded. Thereafter, giblets were segregated and the number of birds removed from the line because of damages or other causes were recorded. Finally, the net pounds of both salable birds and giblets were recorded.

Tabulation of Test Results. Figure 25 shows that 25 of the 1,000 birds entering the dressing operation were rejected or damaged for a loss of 2.5 percent. Similarly, 63 of the remaining 975 birds entering the eviscerating operation were rejected or damaged for a loss of 6.5 percent, and an additional 49 birds, or 5 percent, were lost through condemnation.

In addition to losses of whole birds there are poundage losses in the processing operation due to nonedible elements and other factors. The computation of process and product budgeted cost requires that poundage losses be reduced to yield per pound percentages as outlined below.

The 1,000 birds entering the dressing operation were weighed and the total equaled 2,750 pounds. However, 2.5 percent of these birds were rejected or damaged and thus, theoretically, only 97.5 percent or 2,681 pounds entered the process. Birds completed through dressing and entering the eviscerating process were weighed and totaled 2,533 pounds. Thus, the dressing poundage yield was 94.5 percent.

The 975 birds entering the eviscerating process weighed 2,533 pounds for an average of 2.598 pounds per bird. Rejected birds totaled 112: 63 damaged and 49 condemned. These 112 dressed birds weighed an average of 2.598 pounds and a total of 291 pounds. Thus the theoretical poundage of birds entering eviscerating was 2,533 - 291 pounds for a net of 2,242 pounds.

Approved, processed birds together with giblets were weighed at the end of the eviscerating operation and totaled 1,981 pounds. As 2,242 adjusted pounds were put into this process the eviscerating yield was 88.4 percent ( $1,981 \div 2,242$ ).

The 863 approved and processed birds originally weighed an average of 2.75 pounds for a total of 2,373 pounds. Thus, the overall edible yield for birds processed through dressing and eviscerating was 83.5 percent ( $1,981 \div 2,373$ ).

The industry customarily measures yield as the percent of ready-to-cook poundage available from total live pounds of input. The technique illustrated here separates yield between bird yield and processing yield. These data are more meaningful for control purposes as actions appropriate to reduce yield losses due to damages, rejections, and condemnations may differ from those actions appropriate to reduce losses of edible weight in processing operations.

Standard Loss Percentages. Based upon these test data; illustrated in figure 26. Data for Broilers - 2-4/16, taken from Test Data of 1,000 Selected Broilers, figure 25, are used in the first column. In practice, similar tests would be conducted for other bird types and weight categories in order to develop a table of loss percentages for all classifications processed.

FANCY POULTRY CO.  
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TEST DATA OF 1,000 SELECTED BROILERS

CATEGORY - 2-4/16 LB. BROILERS

	.....BIRDS.....				.....POUNDS.....					
	PROCESS INPUT	REJECTED OR DAMAGED	PROCESS OUTPUT	% LOSS TO PROCESS INPUT	PROCESS INPUT	ADJUSTED INPUT	WEIGHED OUTPUT	% YIELD	AVERAGE WEIGHT IN	WEIGHT OUT
DRESSING.....	1,000	25	975	2.5	2.750	2.681	2,533	94.5	2.750	2.598
EVISCERATING:										
Damaged.....	975	63	912	6.5						
Condemnation.....		49*	863	5.0						
Total.....					2.533	2.242	1,981	88.4	2.598	2.296
OVERALL.....	1,000	137	863	13.7	2.750	2.373	1,981	83.5	2.750	2.296

\* Birds condemned when inspected by U. S. Dept. of Agriculture

Figure 25



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ANYWHERE, U.S.A.

STANDARD LOSS PERCENTAGES

	.....BROILERS.....				.....HENS.....		
	2-4/16	2-8/16	2-12/16	3-0/16	3-0/16	3-4/16	3-8/16 ETC.
BIRDS LOSSES:							
Dressing... ..	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Eviscerating.....	6.5	6.0	6.0	5.5	5.5	5.3	5.1
Condemnation.....	5.0	5.0	5.0	4.5	4.5	4.5	4.3
CUMULATIVE BIRD:							
Loss.....;	13.7	12.9					
Yield.....	86.3	87.1	87.1	88.0	88.0	88.2	88.6
EDIBLE YIELD.....	83.5	85.0	86.0	86.0	87.0	88.0	89.0
COMBINED;							
Yield.....	72.0	74.0	74.9	75.7	76.6	77.6	78.9
Loss.....	28.0	26.0	25.1	24.3	23.4	22.4	21.1
	.....All Categories.....						
PACKING LOSS:							
Parts.....				2.0%			
Giblets.....				2.4			
CUTTING LOSS - Parts.....				3.0			

Figure 26

The following is an explanation of the source of data in the first column:

Bird Losses. Dressing, eviscerating, and condemnation are taken directly from the Test Data, figure 25. The cumulative bird yield of 86.3 percent comes from the test data as the computed overall loss is 13.7 percent ( $100.0\% - 13.7\% = 86.3\%$ ).

Edible Yield. The 83.5 percent overall poundage yield computed in the test data.

Combined Yield. Computed by dividing the actual weighed output at the end of eviscerating - 1,981 pounds, by the original input of live birds - 2,750 pounds. The result is 72.0 percent.

Combined Loss. 28.0 percent is the complement of the combined yield of 72.0 percent.

Packing Losses and Cutting Losses - are shown in figure 26, and in practice would be determined on the basis of tests similar to that described for whole birds.

The yield and loss percentages developed in these illustrations are not to be considered representative of any particular plant. These data have been deliberately distorted to highlight the method by which they were obtained.

## PROCESS COSTS

The development of process costs is illustrated in figures 27 and 28. The first illustration, figure 27, shows the simple calculations for determining unit budgeted labor and overhead costs for eviscerating various type and weight categories of birds. The second illustration, figure 28, shows the determination of unit costs for packing thighs and drumsticks, and livers into 8-oz. packages. Computation of budgeted labor and overhead costs for other processes operative in a particular plant follows a similar pattern.

### Eviscerating Unit Costs (figure 27)

Production Unit. 100 birds.

Productivity - Speed. Travel speed in hangers per hour established as standard for each type of bird - 2,400 per hour (24.00 on a 100 bird basis) for Broilers and Hens - 2 lbs., in this illustration.

% Utilization. Percentage of available time to be utilized for actual production operations after allowances for breakdowns, rest periods, empty hangers and other factors. This percentage is established by plant management based upon a review of past experience or by time study.

Fancy Poultry Co.  
Anywhere, U. S. A.

PROCESS COST CALCULATIONS

PLANT Pleasantville  
PROCESS Eviscerating  
PROD. UNIT 100 Birds  
PERIOD \_\_\_\_\_

TYPE PRODUCT OR  TYPE BIRD	WT. CATEGORY	PRODUCTIVITY			PER PROD. UNIT				% YIELD	FOR CONTROL REPORTING			
		SPEED IN PROD. UNITS	% UTILIZATION	NET	LABOR		O'HEAD			LABOR	O'HEAD		
					\$	¢	\$	¢					
					62	801	36	511					
Broilers & Hens	2-0	24.00	87.50	21.00	2	9905	1	7386	93.50	# 3	1984 # 1	8595	
"	2-1	"	"	21.00	2	9905	1	7386	93.50	3	1984	1	8595
"	2-2	"	"	21.00	2	9905	1	7386	94.00	3	1814	1	8496
"	2-12	22.50	"	19.69	3	1895	1	8543	94.00	3	3931	1	9727
"	3-0	"	"	19.69	3	1895	1	8543	94.50	3	3751	1	9622
Turkey Roasters	3-8	22.00	85.00	18.70	3	3583	1	9525	95.50	3	5165	2	0445
"	4-0	"	"	18.70	3	3583	1	9525	96.00	3	4982	2	0339
"	4-8	20.00	"	17.00	3	6942	2	1477	96.00	3	8481	2	2372

Figure 27

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PROCESS COST CALCULATIONS

PLANT Pleasantville  
PROCESS Packing  
PROD. UNIT 100 Packages  
PERIOD \_\_\_\_\_

TYPE PRODUCT OR		WT. CATEGORY	PRODUCTIVITY			PER PROD. UNIT		% YIELD	FOR CONTROL REPORTING			
TYPE BIRD	SPEED IN PROD. UNITS		% UTILIZATION	NET	LABOR		O'HEAD		LABOR	O'HEAD		
					\$	¢						\$
Thigh and drumsticks	8 oz			2.40	62	499	2	516	98.00	6373	10697	
Loose	8 oz			2.00	74	95	1	2530	97.60	7679	12889	

Figure 28

Net Productivity. Actual number of hangers and birds expected to be processed per hour - computed by multiplying speed by percent utilization (24 x 87.5 percent equals 21).

Labor and Overhead per Production Unit. From figure 24, (Labor and Overhead Cost Rates per Man or Machine Hour). Budget costs per eviscerating conveyor-hour were determined to be \$62.801 for labor and \$36.511 for overhead. Budgeted eviscerating labor costs per 100 birds are therefore \$62.801 divided by 21 (for 2,100 birds per hour) or \$2.9905; budgeted eviscerated overhead costs, similarly, are \$36.511 divided by 21, or \$1.7386 per 100 birds.

Labor and Overhead for Control Reporting. Determined by adjusting these costs per 100 birds for standard loss percentages illustrated in figure 26. Bird loss in eviscerating was determined by test to be 6.5 percent for 2-4/16 broilers. Bird yield was therefore determined to be 93.5 percent (the complement of 6.5 percent). Labor and overhead per production unit are divided by these yield percentages to arrive at costs for control reporting purposes. These costs reflect standard losses expected to be incurred in the normal course of operation.

Packing Unit Costs (figure 28)

Production Unit. 100 packages.

Weight Category. 8-oz. packages.

Productivity. Assumed to be 240 and 200 per hour net for the two items shown. In practice these productivity rates would be based on past experience or time study.

Labor and Overhead Per Production Unit. From budgeted costs per man-hour (developed in figure 24) of \$1.499 for labor and \$2.516 for overhead. These budgeted costs are divided by productivity rates of 2.40 and 2.00 (100 packages) per hour. Budgeted labor and overhead costs per 100 packages result, as shown.

Labor and Overhead for Control Reporting. Computed by adjusting unit costs for standard yield losses as explained under Eviscerating Unit Costs, above.

## PRODUCT COSTS

The development of product costs is illustrated in figures 29, 30, and 31. The illustrations are designed to indicate the steps in arriving at costs per carton of 48 eight-ounce packages of thighs and drumsticks. Cartons are assumed to be packed for an outside customer specifying that his wrapper and

label be used on individual packages. The company has determined that 2-1/4 pound broilers (ready-to-cook) are the preferable category of bird to be used.

Total processing cost is determined in three stages: (1) cost of the dressed and eviscerated birds, figure 29; (2) cost of cutting up eviscerated birds into parts, figure 30; and (3) packing of selected parts (thighs and drumsticks) into boxes and cartons for freezing and shipment, figure 31.

The procedure of developing costs in stages permits the cost of other items in the product line to be determined more readily. For example, costs of dressed and eviscerated birds can be used also in calculating costs of half-birds and complete sets of cut-up birds. Further, costs of cut-up birds can be carried to cost sheets for packages of bird parts other than thighs and drumsticks. In the first two stages (figure 29 and figure 30), calculations are computed on a per bird basis and converted to a per pound basis. In the third stage (figure 31), the calculations are on a pound basis with the 24-pound carton (48 packages) as the cost unit.

#### Cost of Dressed and Eviscerated Birds

An illustrative Product Specification and Cost Sheet, figure 29, has been prepared in the following manner, for dressing and eviscerating 100 2-4/16-lb. broilers:

Net Quantity, % Loss, and Gross Quantity. Obtained by first entering the desired quantity - 100 birds - as the net quantity opposite the last operation, eviscerating. The % Loss for the two processes, 2.5 for dressing and 11.5 for eviscerating, are obtained from the list of Standard Loss Percentages, figure 26. These percentages represent the whole birds lost, including condemnation losses; they do not include inedible portions removed from birds remaining on the processing line.

Next, the gross quantity of birds normally required to obtain 100 eviscerated birds of this category is calculated. The net quantity of 100 eviscerated birds is divided by the complement of the total eviscerating and condemnation loss percentage, 11.5 %, or 0.8850. The result, 113.00, is the number of birds required at the beginning of the eviscerating line to obtain, under normal conditions, 100 eviscerated birds.

Since 113.00 dressed birds are required to obtain 100 eviscerated birds, 113.00 must be entered as the net quantity for dressing. In a similar computation, the 113.00 for dressed birds is divided by the complement of the loss percentage, 2.50%, or .9750. Thus, 115.90 live birds are required, under normal conditions, to furnish 113.00 dressed birds and, in turn, 100 eviscerated birds.

Pricing Unit. Per 100 birds for labor and overhead, and per pound for material.

## PRODUCT SPECIFICATION AND COST SHEET

**LABEL** \_\_\_\_\_

SHIPPING UNIT \_\_\_\_\_

PERIOD \_\_\_\_\_

MATERIAL OR OPERATION	NET QUANT.	% LOSS	GROSS QUANT.	PRICING UNIT	MATERIALS		LABOR			OVERHEAD			CUMU- LATIVE TOTAL
					PRICE	AMT.	HRS.	RATE	AMT.	HRS.	RATE	AMT.	
Dressing	113.00	2.50	115.90	C Birds	\$	\$		\$ 1282	\$ 1483		\$ 1755	\$ 20340	\$ 35198
Eviscerating	100	11.50	113.00	C Birds				2991	3378		1739	19651	88647
Total/100 Eviscerated Birds									48656			39991	88647
Total/100 Lbs. of Birds (÷ 2.25)									21625			17774	39399
Broilers	100	28.00	138.89	Lbs.	1400	194446							233845
					TOTALS		\$ 194446		\$ 21625		\$ 17774	\$ 233845	
TYPE BIRD <u>Broiler</u> WT. CATEGORY <u>2-4/6</u>													
TYPE PUT UP OR PKGE. <u>Whole</u>													
SHIPPED - ICED <input checked="" type="checkbox"/> OR FROZEN <input type="checkbox"/>													
COST UNIT: - <u>100 Lbs.</u>													

1¢ DIFFERENTIAL - \$ 1.3889 PER c Lbs. @ 14 ¢ BASE

Figure 29

Labor and Overhead. Hourly rates per 100 birds are obtained from Process Cost Calculations, figure 27 - eviscerating labor \$2.991 and overhead \$1.739. Amounts for labor and overhead are extensions of gross quantities by rates. Dressing labor and overhead costs are determined in a similar manner.

Cumulative Total. Costs are entered as \$8.8647 per 100 birds. This cumulative cost is converted to a cost per 100 pounds (\$3.9399) by dividing by 2.25 (the dressed weight category of birds).

Material. Cost is then added; 100 net pounds are required. The combined bird and edible yield for this category of bird is shown on Standard Loss Percentages, figure 26, and is 72 percent for a loss of 28 percent; 100 pounds divided by 72 percent results in 138.89 pounds of live birds to be purchased to yield 100 pounds of dressed and eviscerated birds. A price of 14¢ per pound for live birds at the plant door is assumed. Therefore, material cost is extended to \$19.4446.

Totals. Entered along the bottom of the form. They show a cumulative product cost of \$23.3845 per 100 pounds of 2-4/16 broilers, dressed and eviscerated.

1¢ Differential. Shown in the lower left corner of figure 29. Useful in converting the cost as here computed to a current market basis. The 1¢ differential of \$1.3889 per 100 pounds, using a market price base of 14¢, represents the equivalent change in prime material cost of eviscerated birds for each 1¢ change in the price of live birds. Assume that the market price is 16-1/2 cents per pound or 2-1/2 cents more than the 14¢ used in the cost computation. The differential of \$1.3889 is multiplied by 2-1/2 and the result is added to the original cost of \$23.3491 to obtain a new total cost of \$26.8214 per 100 pounds of eviscerated bird.

#### Cost of Cut-Up Broilers - 2-4/16 (figure 30)

The preparation of the Cut-up Broilers' "Product Specification and Cost Sheet," figure 30, follows the same pattern as the illustration for the cost of eviscerated bird in figure 29. Since the cutting-up process follows the eviscerating process, the amount of labor and overhead per 100 birds, \$4.866 and \$3.999, can be obtained directly from the eviscerated bird cost sheet. The remainder of the calculations are made in the same manner as on the eviscerated bird cost sheet. The 3 percent loss for the cutting-up process and the 31.00 percent (28.00 plus 3.00) cumulative loss through the cutting-up process are obtained from the "Standard Loss Percentages" - figure 26.

#### Cost of Thighs and Drumsticks (figure 31)

The cost sheet for thighs and drumsticks follows the same pattern as the Cut-up Broilers Cost Sheet in figure 30. The net quantity in this illustration is 24 pounds of thighs and drumsticks. The percentages in the "% Loss" column again come from the "Standard Loss Percentages." The material, labor, and overhead rates (per hundred pounds in this case) come directly from the cost sheet for Cut-up Broilers - 2-4/16 pounds in figure 30. The labor and overhead rates per carton for packing are obtained from a "Process Cost Calculations" sheet,

Fancy Poultry Co.  
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PRODUCT SPECIFICATION  
AND COST SHEET

PRODUCT Cut-up Broilers - 2 1/16  
LABEL \_\_\_\_\_  
SHIPPING UNIT \_\_\_\_\_  
PERIOD \_\_\_\_\_

MATERIAL OR OPERATION	NET QUANT.	% LOSS	GROSS QUANT.	PRICING UNIT	MATERIALS		LABOR			OVERHEAD			CUMULATIVE TOTAL
					PRICE	AMT.	HRS.	RATE	AMT.	HRS.	RATE	AMT.	
Eviscerated Birds	100	3	103.09	C Birds	\$	\$		\$ 4.866	\$ 50164		\$ 3.999	\$ 4.1226	\$ 9.1390
Cutting into parts	100	3	103.09	C Birds				1.222	1.2600		872	0.8989	11.2979
Total per 100 Cut-up birds									6.2764			5.0215	11.2979
Total per 100 Lbs. of birds (÷ 2.25)									2.7895			2.2318	5.0213
Broilers	100	31.00	144.93	Lbs		1400.20	2902						25.3115
TOTALS						\$ 20.2902			\$ 2.7895			\$ 2.2318	\$ 25.3115

TYPE BIRD Broiler WT. CATEGORY 2-4/16

TYPE PUT UP OR PKGE. \_\_\_\_\_

SHIPPED - ICED ☒ OR FROZEN ☐

COST UNIT: 100 lbs. Cut-up parts

1¢ DIFFERENTIAL - \$ 1.4493 PER 100 lbs. @ 14 ¢ BASE

Figure 30



## PRODUCT SPECIFICATION AND COST SHEET

PRODUCT High & Drumsticks  
 LABEL Tasty-Bird  
 SHIPPING UNIT 48-Lb.  
 PERIOD \_\_\_\_\_

MATERIAL OR OPERATION	NET QUANT.	% LOSS	GROSS QUANT.	PRICING UNIT	MATERIALS		LABOR			OVERHEAD			CUMU- LATIVE TOTAL
					PRICE	AMT.	HRS.	RATE	AMT.	HRS.	RATE	AMT.	
Cut-up Birds (Thigh & Drumsticks)	24	2	24.49	C Lbs.	\$ 20.29	\$ 496.90		\$ 2.79	\$ .6833		\$ 2.23	\$ .5466	\$ 6.1989
Packing Materials													
Box (#9)	48	3	49.48	C	.195	.0965							
Wrapper (T-B #43)	48	3	49.48	C	.037	.0183							
Carton (T-B #102)	1	3	1.03	C	.9250	.0953							
Packing	48	2	48.98	C Pkgs				.0625	.3061		1.048	.5133	7.2284
TOTALS						\$ 5.1791		\$ .9894			\$ 1.0599	\$	7.2284
TYPE BIRD <u>Birds</u>	WT. CATEGORY <u>24/16</u>												
TYPE PUT UP OR PKGE. <u>"Party - Bird"</u>													
SHIPPED - ICED <input type="checkbox"/> OR FROZEN <input checked="" type="checkbox"/>													
COST UNIT: <u>24 Lb. Carton</u>													

1¢ DIFFERENTIAL - \$ .3549 PER Carton @ 14 ¢ BASE

Figure 31

as illustrated in figure 28.

Packing Materials costs are computed on the basis of quantities specified, adjusted (by dividing by the complements of estimated waste percentages) for losses, and extended by prices paid to vendors.

For this cost sheet, the 1¢ differential per carton is obtained by dividing the total prime material cost per carton by the prime material base price per pound. In the illustration, the total prime material cost of the bird, \$4.9690 per hundred pounds, divided by 14 cents a pound (the price per pound live weight basis of the prime material) produces a differential of \$.3549. In other words, for every 1¢ change in the live weight price per pound of the bird, a corresponding change of 35.49¢ is made in the cost of each carton of 48 8-oz. packages.

### PLANT REPORTING

A Plant Report is illustrated in figure 32. This report is similar to the Plant Report described in Part II of this Guide.

### REPORT CONTENT

The Plant Report is a summary of production and rejection counts recorded at control points along the processing lines. Processing yield and loss percentages are computed from these recorded counts. This processing data complements the dollar and cents cost determinations and variances summarized in the labor and overhead cost reports described later in this part of the Guide.

### REPORT PREPARATION

The procedure for preparing the Plant Report is described in Part II. The Plant Report illustrated in figure 32 was prepared in accordance with this same procedure.

### COST REPORTING

The introduction to this Part III of the Guide points out that the control system provides for a Statement of Income prepared from the general books of account to be supported by a Summary of Cost Performance, a Plant Report (described above), and two detailed reports; one for labor and one for overhead. This section describes the preparation of the labor and overhead cost reports and the summarization of these data on the Summary of Cost Performance.

First, a worksheet is prepared, figure 33, from a week's production data, to compute the labor and overhead absorbed and allowed.

Next, a Weekly Cost Control Report, figure 34, is prepared, using data from the worksheet, above.

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Anywhere, U.S.A.

WEEK  
MONTH ENDED March 5 19  

PLANT REPORT  
POULTRY PROCESSED

PLANT Pleasantville

HOURS & TYPE BIRD	72.0	-		Broilers		Broilers		Broilers		Turkey Roasters		Turkey Roasters
WEIGHT CATEGORY	Plant totals		2-4/16		2-8/16		2-12/16		4-0/		4-8/16	
	POUNDS	BIRDS	POUNDS	BIRDS	POUNDS	BIRDS	POUNDS	BIRDS	POUNDS	BIRDS	POUNDS	BIRDS
PURCHASES												
TRUCKING LOSSES												
LIVE SALES												
NET TO DRESSING			96 215	36 292	107 533	36 092	166 239	53 216	38 605	8 377	107 574	21 250
DRESSING	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%
LOSS	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%
NET TO EVISCERATING				36 111		35 659		51 620		8 059		20 974
EVISCERATING	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%
LOSS	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%
CONDEMNATION	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%
LOSS	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%
NET PROCESSED			73 701	33 050	83 553	33 156	124 014	46 274	29 610	7 311	89 609	20 000
EQUIV. POUNDS IN			87 620		98 785		144 553		33 692		101 246	
PROCESSING YIELD	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%
TOTAL AVERAGE	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%	ACT.	%
YIELD WEIGHT	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%	STD.	%
POUNDAGE DETAIL.	POUNDS	% TO TOTAL	POUNDS	% TO TOTAL	POUNDS	% TO TOTAL	POUNDS	% TO TOTAL	POUNDS	% TO TOTAL	POUNDS	% TO TOTAL
GRADE A		%		%		%		%		%		%
GRADE B		%		%		%		%		%		%
GRADE C		%		%		%		%		%		%

Figure 32

Then, at the end of the month, weekly labor and overhead data are summarized on a worksheet, figure 36, to obtain monthly totals for use in the Overhead Spending Variance Report, figure 37, and to provide monthly total data to be summarized on the Summary of Cost Performance, figure 38.

#### WEEKLY COST CONTROL REPORT WORKSHEET

The preparation of the Weekly Cost Control Report, figure 34, requires a supporting worksheet. This worksheet is illustrated in figure 33.

##### Worksheet Content

The worksheet illustrated covers eviscerating operations and is used to compute total absorbed labor and overhead for the period by relating actual production units to budgeted labor and overhead previously established for this process as shown in figure 27.

##### Worksheet Preparation

The following are the sources of data shown on the worksheet:

Type Bird, Weight Category, and Production. From the Plant Report, figure 32. Production In Units represents the output of the process; in this case, it is hundreds of birds eviscerated without consideration of condemnation losses.

Per Unit - Labor and Overhead. Budgeted process costs developed as shown on Process Cost Calculations, figure 27. These unit costs represent planned costs based on normal operating conditions, budgeted labor and overhead costs, and standard loss percentages.

Absorbed - Labor and Overhead. Computed by multiplying labor and overhead per unit by units produced. Absorbed costs represent the product output of various processes (cost centers) at predetermined costs developed from the budget.

Allowed Labor and Overhead, Productivity Variances and Ratio. Computed from (1) line-hours operated - in this case 72 hours - and (2) costs per line-hour as previously determined and shown on Labor and Overhead Cost Rates Per Man or Machine Hour, figure 24. These line-hour budgeted costs of \$62.801, labor, and \$36.511, overhead, are extended by the actual line-hours of 72 to obtain allowed labor and overhead costs of \$4,521.67 and \$2,626.79, respectively.

Productivity variances in dollars are obtained by subtracting allowed costs from absorbed costs and result in \$185.38, labor, and \$108.43, overhead, both favorable, resulting from producing at a rate higher than standard.

The Productivity Ratio is the result of dividing total allowed overhead of \$2,626.79 by total absorbed overhead of \$2,737.22. The

Fancy Poultry Co.  
Anywhere, U. S. A.

W/E March 19, 19       
PLANT Pleasantville  
PROCESS Eviscerating

WEEKLY COST CONTROL REPORT WORK SHEET  
(WITHOUT MATERIALS)

ACTIVITY 45.0 %

TYPE PRODUCT, OF  TYPE BIRD	WEIGHT CATEGORY	PRODUCTION IN UNITS	PER UNIT				ABSORBED			
			LABOR		O'HEAD		LABOR		O'HEAD	
<i>Broiler</i>	<i>2-4/</i>	<i>330.50</i>	<i>\$ 3</i>	<i>198</i>	<i>\$ 1</i>	<i>860</i>	<i>\$ 1056</i>	<i>94</i>	<i>\$ 614</i>	<i>73</i>
"	<i>2-8/</i>	<i>331.56</i>	<i>3</i>	<i>181</i>	<i>1</i>	<i>850</i>	<i>1054</i>	<i>69</i>	<i>613</i>	<i>39</i>
"	<i>2-12/</i>	<i>462.74</i>	<i>3</i>	<i>393</i>	<i>1</i>	<i>973</i>	<i>1590</i>	<i>08</i>	<i>912</i>	<i>99</i>
<i>Turkey-Roaster</i>	<i>4-9/</i>	<i>73.11</i>	<i>3</i>	<i>498</i>	<i>2</i>	<i>034</i>	<i>255</i>	<i>74</i>	<i>148</i>	<i>71</i>
" "	<i>4-8/</i>	<i>200.00</i>	<i>3</i>	<i>848</i>	<i>2</i>	<i>237</i>	<i>769</i>	<i>60</i>	<i>447</i>	<i>40</i>
TOTALS							<i>4707</i>	<i>05</i>	<i>2737</i>	<i>22</i>

LINE - HOURS OPERATED	RATES PER				ALLOWED			
	LINE - HOUR				LABOR		O'HEAD	
<i>72.0</i>	<i>\$ 62</i>	<i>801</i>	<i>\$ 36</i>	<i>511</i>	<i>\$ 4521</i>	<i>67</i>	<i>\$ 2626</i>	<i>79</i>
PRODUCTIVITY VARIANCES - - - -	<i>\$ 185</i>	<i>38</i>	<i>\$ 108</i>	<i>43</i>				
PRODUCTIVITY RATIO - - - - -							<i>0960</i>	

Figure 33

ratio in this example is 0.960 indicating that 0.960 hour was consumed in producing one standard hour of output - a favorable variance.

Activity. Percentage shown on the top of the worksheet indicates that while the budget was based on 160 hours per week, figure 24, the actual hours of operation were 72 hours or 45 percent. Thus, while the eviscerating lines operated only 45 percent of the time planned, actual hours of operation were relatively efficient as evidenced by the 0.960 productivity ratio. The significance of these results on costs will become evident in the reports which follow.

## WEEKLY COST CONTROL REPORT

An illustrative Weekly Cost Control Report is shown in figure 34. It has been filled out, as to details, only for the eviscerating process used in this example.

### Report Content

This report brings together the actual payroll costs and the amounts of absorbed and allowed labor to show the labor variance due to productivity and the variance due to the amount of payroll being more or less than budget for the actual line-hours of operation.

### Report Preparation

Absorbed Labor, Allowed Labor, Productivity Variance, and Productivity Ratio. Transferred from the Weekly Cost Control Report Worksheet, figure 33. In practice, worksheets would have been prepared for each department.

Actual Payroll. Taken from the company or plant payroll register and includes only straight-time wages for direct labor employees.

Payroll Variance. Represents the difference between Allowed Labor and Actual Payroll. In this illustration the eviscerating department operated with \$238.17 less labor cost than was budgeted for the actual line-hours operated.

Labor Ratio. Computed by dividing actual payroll by absorbed labor. The 0.910 indicates that only 91 cents of payroll were expended for each dollar of budgeted payroll cost "earned" or "absorbed" as a result of units produced in the Eviscerating Department.

Plant Totals - Ratios. Computed in the same manner as that for each department.

Activity. The percentage shown on the top of the report is 48.9 percent. The Overhead Rates developed in figure 24 were based upon total overhead per month of \$58,470 at 85 percent activity which is \$68,788 per month at 100 percent activity which, in turn, reduces to \$15,874 per

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# WEEKLY COST CONTROL REPORT

W/E March 19 19     

PLANT Pleasantville

ACTIVITY 48.9 %

PROCESS	ABSORBED LABOR		ALLOWED LABOR		PRODUC- TIVITY VARIANCE	ACTUAL PAYROLL		PAYROLL VARIANCE	LABOR RATIO		PRODUCTIVITY RATIO	
	\$		\$		\$	\$		\$				
<i>Dressing</i>												
<i>Eviscerating</i>	4707	05	4521	67	18538	4283	50	23817	910		0960	
<i>Cutting</i>												
<i>Packing</i>												
PLANT TOTALS	\$9182	60	\$8980	48	\$(20212)	\$9632	20	\$65172	(1049)		0978	

	ABSORBED			ACTUAL		USAGE VARIANCE	
MATERIAL USAGE	\$			\$		\$	

Figure 34

week on the basis of 4-1/3 weeks per month. Thus, if 100 percent plant activity requires \$15,874 of overhead and the allowed overhead for the week is \$7,762.40 (summarized from the weekly worksheets for the four departments), the activity level is 48.9 percent.

Material Usage. Spaces at the bottom of the report are for the use of those companies desiring to measure usage of packaging and packing materials. Such companies should use a special Weekly Cost Control Report Worksheet for the Packing Department, as shown in figure 35. Unit costs of materials will be obtained from the appropriate Product Specification and Cost sheets, as illustrated in figure 31. Here, the packing materials cost per unit is \$0.2101 (\$5.1791 less \$4.9690). The total materials data will be entered on figure 34, opposite Material Usage, absorbed materials under "absorbed," actual usage in dollars under "actual" column and the difference in the "Usage Variance" column.

## LABOR AND OVERHEAD ANALYSIS WORKSHEET

The purpose of this worksheet, figure 36, is to bring together data from each Weekly Labor Cost Control Report Worksheet, figure 33, and Weekly Cost Control Report, figure 34, to obtain monthly totals and other data required for the preparation of the Overhead Spending Variance Report, figure 37, and Summary of Cost Performance, figure 38.

## WORKSHEET PREPARATION

### Labor Section

The figures from the Weekly Cost Control Report, figure 34, are entered in the Absorbed, Allowed, and Actual columns. Provision is made for entering end-of-month accruals to adjust weekly data to a monthly basis.

### Overhead Section

Data for the overhead section of the worksheet come from sources or computations outlined below:

Absorbed and Allowed. Amounts of overhead come from the Weekly Cost Control Report Worksheet, figure 33, prepared for each department. Departmental worksheets are added together to obtain weekly plant totals for this analysis.

Normal Budget at 100%. Original budget at planned volume of 85 percent (\$58,470.00) as shown on Overhead Budget at Planned Volume, figure 21, adjusted to a volume level of 100 percent ( $\$58,470.00 \div .85$  equals \$68,788.00). The Normal Budget at 100% merely provides a basis upon which to determine the plant-wide activity and is not used for any other purpose.



Fancy Poultry Co.  
Anywhere, U. S. A.

W/E \_\_\_\_\_, 19 \_\_\_\_\_

PLANT \_\_\_\_\_

PROCESS \_\_\_\_\_

# WEEKLY COST CONTROL REPORT WORKSHEET WITH MATERIALS

ACTIVITY \_\_\_\_\_ %

TYPE PRODUCT, OR  TYPE BIRD	WGT. CATEGORY	PRODUCTION IN UNITS	PER UNIT						ABSORBED					
			LABOR		O'HEAD		MATERIALS		LABOR		O'HEAD		MATERIALS	
			\$		\$		\$		\$		\$		\$	
TOTALS									\$		\$		\$	

<div>_____ - HOURS OPERATED</div>	<div>RATES PER</div> <div>_____ - HOUR</div>				<div>ALLOWED</div>			
					<div>LABOR</div> <div>O'HEAD</div>			
	\$		\$		\$		\$	
	PRODUCTIVITY VARIANCES --				\$		\$	
PRODUCTIVITY RATIO - - - - -								

Figure 35

FANCY POULTRY CO.  
ANYWHERE, U.S.A.

PLANT Pleasantville  
 PERIOD March 19

LABOR AND OVERHEAD ANALYSIS WORKSHEET

LABOR	WEEK ENDING	ABSORBED	ALLOWED	ACTUAL	.....VARIANCES.....			.....RATIOS.....	
					(UNFAVORABLE).....			(OVER 1.000 - UNFAVORABLE)	
					PRODUCTIVITY	PAYROLL	TOTAL	PRODUCTIVITY	TOTAL
1.....		\$	\$	\$					
2.....									
3.....		9,182.60	8,980.48	9,632.20					
4.....									
5.....									
Accruals - End-of-month.....									
Sub-totals.....									
Accruals - Last month.....									
PERIOD TOTAL.....		<u>\$58,562.50</u>	<u>\$57,742.63</u>	<u>\$56,922.75</u>	<u>\$ 819.87</u>	<u>\$ 819.88</u>	<u>\$1,639.75</u>	<u>.986</u>	<u>.972</u>

OVERHEAD	WEEK ENDING	ABSORBED	ALLOWED	NORMAL BUDGET AT 100%	ACTUAL	.....ADJUSTED BUDGET.....		
						FIXED	VARIABLE	TOTAL
1.....		\$	\$					
2.....								
3.....		7,937.01	7,762.40					
4.....								
5.....								
Accruals - End-of-month.....								
Sub-totals.....								
Accruals - Last month.....								
PERIOD TOTAL.....		<u>\$48,418.52</u>	<u>\$47,692.25</u>	<u>\$68,788.00</u>	<u>\$57,285.05</u>	<u>\$32,185.00</u>	<u>\$21,438.05</u>	<u>\$53,623.05</u>
ACTIVITY.....				<u>69.33%</u>				

OVERHEAD VARIANCES AND RATIOS		Variances (Unfavorable)		Ratios (Over 1.000 - Unfavorable)
TOTAL:	Actual overhead expense incurred.....	\$57,285.05		
	Overhead expense absorbed.....	<u>48,418.52</u>	<u>\$(8,866.53)</u>	<u>1.183</u>
SPENDING:	Actual overhead expense incurred.....	57,285.05		
	Budget adjusted to actual level of activity.....	<u>53,623.05</u>	<u>\$(3,662.00)</u>	<u>1.068</u>
VOLUME:	Budget adjusted to actual level of activity.....	53,623.05		
	Overhead allowed.....	<u>47,692.25</u>	<u>(5,930.80)</u>	
PRODUCTIVITY:	Overhead allowed.....	47,692.25		
	Overhead absorbed.....	<u>48,418.52</u>	<u>726.27</u>	<u>.985</u>
			<u>\$(8,866.53)</u>	

Figure 36

Activity %. Dividing the allowed overhead of \$47,692.25 by normal overhead of \$68,788.00 results in 69.33 percent activity.

Actual. Expenses of \$57,285.05 come from the total of overhead expense accounts in the general ledger maintained in accordance with the chart of accounts in Appendix 1 to this Guide.

Adjusted Budget. Original budget data of \$32,185.00 fixed expense and \$26,285.00 variable expense per the Overhead Budget at Planned Volume (figure 21) with variable expenses adjusted to the actual activity or volume level for the month. Planned volume was 85 percent. Actual volume was 69.33 percent, or 81.56 percent of planned volume. Thus, the \$26,285 variable expenses are multiplied by 81.56 percent to equal \$21,438.05.

Variances. Computed as shown on the worksheet:

Total variance. Difference between actual expenses incurred and expenses absorbed; is analyzed further into spending, volume, and efficiency variances.

Spending variance. Arises because actual expenses incurred exceed the amount called for in the budget after adjustment of variable expenses due to the fact that the actual level of activity or volume differed from the activity or volume level used in the original budget.

Volume variance. Arises because the allowed overhead cost is based upon the expectation that activity or volume will equal a planned level of 85 percent. Actual activity or volume was at 69.33 percent. The original budget was adjusted to the actual level with respect to variable costs; however, fixed costs necessarily remained at the original amount. The variance of \$5,930.80 represents fixed costs which were not absorbed because of the lower than planned level of activity.

Productivity variance. Results from the fact that expenses are absorbed on the basis of a predetermined productivity per line or man hour. When actual productivity varies from this predetermined amount an overhead variance results.

#### OVERHEAD SPENDING VARIANCE REPORT

The Overhead Spending Variance Report, figure 37, is prepared for the purpose of reporting performance in controlling overhead expense to adjusted budgetary limits.

The report illustrated covers the total plant overhead expenses. In practice, the preparation of individual reports for the various departments will often be desirable. Separate department reports would be prepared similar to the overall plant report except that they would cover only such classifications of expense as are considered to be controllable by department supervision.

# OVERHEAD SPENDING VARIANCE REPORT

ACCOUNT	OVERHEAD BUDGET			ADJUSTED BUDGET		ACTUAL EXPENSE	SPENDING VARIANCES (UNFAVORABLE)	
	TOTAL	FIXED	VARIABLE	8 155 VARIABLE	TOTAL		CURRENT	YR. TO DATE
<i>Salaries - Supervision</i>	<i>\$4860.00</i>	<i>\$2200.00</i>	<i>\$2660.00</i>	<i>\$2169.50</i>	<i>\$4369.50</i>	<i>\$4250.00</i>	<i>\$119.50</i>	
<i>- Secretarial</i>	<i>250.00</i>	<i>250.00</i>	<i>-</i>	<i>-</i>	<i>250.00</i>	<i>260.00</i>	<i>(10.00)</i>	
<i>- Clerical</i>	<i>700.00</i>	<i>250.00</i>	<i>450.00</i>	<i>367.02</i>	<i>617.02</i>	<i>410.00</i>	<i>207.02</i>	
<i>Bonus - Salaried Personnel</i>	<i>375.00</i>	<i>-</i>	<i>375.00</i>	<i>305.85</i>	<i>305.85</i>	<i>150.00</i>	<i>155.85</i>	
<i>Wages - Indirect Labor</i>	<i>2135.00</i>	<i>775.00</i>	<i>1360.00</i>	<i>1109.22</i>	<i>1884.22</i>	<i>1450.50</i>	<i>433.72</i>	
<i>Overtime Premium</i>	<i>85.00</i>	<i>30.00</i>	<i>55.00</i>	<i>44.86</i>	<i>74.86</i>	<i>10.50</i>	<i>64.36</i>	
<i>Shift Premium</i>	<i>1708.00</i>	<i>-</i>	<i>1708.00</i>	<i>1393.04</i>	<i>1393.04</i>	<i>1251.85</i>	<i>141.19</i>	
<i>Vacation Pay</i>	<i>2140.00</i>	<i>-</i>	<i>2140.00</i>	<i>1745.38</i>	<i>1745.38</i>	<i>2150.00</i>	<i>(404.62)</i>	
<i>Group Insurance</i>	<i>1680.00</i>	<i>200.00</i>	<i>1480.00</i>	<i>1207.09</i>	<i>1407.09</i>	<i>1582.20</i>	<i>(175.11)</i>	
<i>Social Security Taxes</i>	<i>1610.00</i>	<i>282.00</i>	<i>1328.00</i>	<i>1083.12</i>	<i>1365.12</i>	<i>1405.25</i>	<i>(40.13)</i>	
<i>Unemployment Taxes</i>	<i>522.00</i>	<i>-</i>	<i>522.00</i>	<i>425.74</i>	<i>425.74</i>	<i>248.50</i>	<i>177.24</i>	
<i>Fuels</i>	<i>1250.00</i>	<i>350.00</i>	<i>900.00</i>	<i>734.04</i>	<i>1084.04</i>	<i>1580.50</i>	<i>(496.46)</i>	
<i>Power - Lights</i>	<i>195.00</i>	<i>15.00</i>	<i>180.00</i>	<i>146.81</i>	<i>161.81</i>	<i>179.50</i>	<i>(17.69)</i>	
<i>Water</i>	<i>185.00</i>	<i>50.00</i>	<i>135.00</i>	<i>110.11</i>	<i>160.11</i>	<i>193.80</i>	<i>(33.69)</i>	
<i>General Supplies</i>	<i>340.00</i>	<i>300.00</i>	<i>40.00</i>	<i>32.62</i>	<i>332.62</i>	<i>302.00</i>	<i>30.62</i>	
<i>Dept. Supplies</i>	<i>1240.00</i>	<i>210.00</i>	<i>1030.00</i>	<i>840.07</i>	<i>1050.07</i>	<i>1825.60</i>	<i>(775.53)</i>	
<i>All others</i>	<i>39195.00</i>	<i>27273.00</i>	<i>11922.00</i>	<i>9723.58</i>	<i>36996.58</i>	<i>40034.85</i>	<i>(3038.27)</i>	
<i>Plant Total</i>	<i>58470.00</i>	<i>32185.00</i>	<i>26285.00</i>	<i>21438.05</i>	<i>53623.05</i>	<i>57285.05</i>	<i>(3662.00)</i>	

Figure 37

## REPORT CONTENT

The Overhead Spending Variance Report includes, for all plant overhead expense accounts, the amounts originally budgeted, an adjusted budget based on actual plant activity, actual expenses incurred, and the amounts by which actual expenditures are more or less than the adjusted budget amounts.

## REPORT PREPARATION

Accounts and Overhead Budget. Taken from the original Overhead Budget at Planned Volume, figure 21.

Adjusted Budget. Variable and total expenses are the result of adjusting original budget amounts of variable expense to the actual activity or volume level for the period.

In the example the original budget was based upon 85 percent activity. The actual overall plant activity for the period, as shown on the Labor and Overhead Analysis Worksheet, figure 36, was 69.33 percent. Thus, actual activity was 81.56 percent of planned activity.

Original budgeted amounts of variable expense are then multiplied by 81.56 percent and entered in the Adjusted Budget-Variable column. These amounts are then added to the fixed expenses to obtain total adjusted budget amounts.

Actual Expenses. Entered from the general ledger expense accounts maintained according to the Chart of Accounts shown in Appendix 1 of this Guide.

Spending Variances. Are computed by subtracting actual expenses from adjusted budget amounts. Total spending variances should agree with the spending variance shown on Labor and Overhead Analysis Worksheet, figure 36.

## SUMMARY OF COST PERFORMANCE

An illustrative Summary of Cost Performance report is shown in figure 38. This report serves to point out performance in controlling important elements of labor and overhead costs in relation to predetermined budgets and standards and is intended to supplement the Statement of Income, figure 16.

### Report Content

This report shows for the overall plant the amounts of labor and overhead costs incurred during the month and the types and amounts of variation from budgets and standards for the current month, prior month, and year-to-date. Ratios are also shown to serve as indexes of performance.

FANCY POULTRY CO.  
ANYWHERE, U.S.A.

SUMMARY OF COST PERFORMANCE  
MARCH, 19

		..... THIS MONTH.....		....VARIANCES.....	
.....	...VARIANCES..... (UNFAVORABLE)	AMOUNT EXPENDED	VARIANCE	LAST MONTH	YR. TO DATE
<hr/>					
LABOR -					
Productivity.....		\$	\$ 819.87	\$	\$
Payroll.....		<u>                    </u>	<u>819.88</u>	<u>                    </u>	<u>                    </u>
Total.....		<u>\$56,922.75</u>	<u>\$ 1,639.75</u>	<u>\$</u>	<u>\$</u>
<hr/>					
OVERHEAD -					
Spending.....			\$(3,662.00)	\$	\$
Volume.....			(5,930.80)		
Productivity.....		<u>                    </u>	<u>726.27</u>	<u>                    </u>	<u>                    </u>
Total.....		<u>\$57,285.05</u>	<u>\$(8,866.53)</u>	<u>\$</u>	<u>\$</u>

RATIOS (OVER 1.000 - UNFAVORABLE)		THIS MONTH	LAST MONTH	YEAR-TO- DATE
<u>LABOR -</u>				
	Productivity.....	.986		
	Total.....	<u>.972</u>		
<u>OVERHEAD -</u>				
	Spending.....	1.068		
	Productivity.....	.985		
	Total.....	<u>1.183</u>		
<u>ACTIVITY</u>				
NORMAL - 85%	.....	<u>70.45%</u>	<u>%</u>	<u>%</u>

Figure 38

## Report Preparation

The reported data for the month are obtained directly from the Labor and Overhead Analysis Worksheet, figure 36. Data for the prior month and year-to-date are obtained by using the report for the prior month.

## UTILIZING REPORT DATA

In contrast with the operating and cost reports illustrated in Parts I and II of this Guide, the reports in this Part III employ a more extensive use of predetermined operating and cost standards. The reports point out performance in meeting standards and budgets at the various key points of control so that appropriate corrective action can be taken. Control points are generally related to responsibility assigned under the plant or company organization plan. Provision is made for the predetermination of process and product costs for use in pricing decisions, to the extent they are based on cost, and as aids in making other business decisions.

To be most useful, budgets and standards should reflect actual operating conditions to a reasonable degree. The frequency of revision in standards and budgets is therefore an important consideration. Standards should not be revised with a frequency which defeats the prime objective, that is, measurement of progress in relation to a predetermined goal. As a general rule, standards and budgets should be reviewed, and revised as necessary, annually. Revisions, however, should be more frequent when major changes occur in the factors on which the goals are based.

Variations in the reporting pattern may be devised which will assist in the effective utilization of reported information. For example, figure 39 illustrates a Weekly Ratio Chart that facilitates the evaluation of trends. The horizontal axis uses 100 as standard and, when actual data are plotted, shows the deviations and trend in deviations from established standards.

## ALTERNATIVES AND EXCEPTIONS

### STANDARD COST CONTROL

The system described in this Part utilizes many of the techniques of Standard Cost Accounting without requiring a formalized accounting system based on standard costs. Under Standard Cost Accounting, inventory ledger balances and cost of sales information are recorded and maintained at standard unit costs in contrast to actual or average cost. Differences between "standard" and "actual" costs - Variances - are generally charged off each accounting period as they occur.

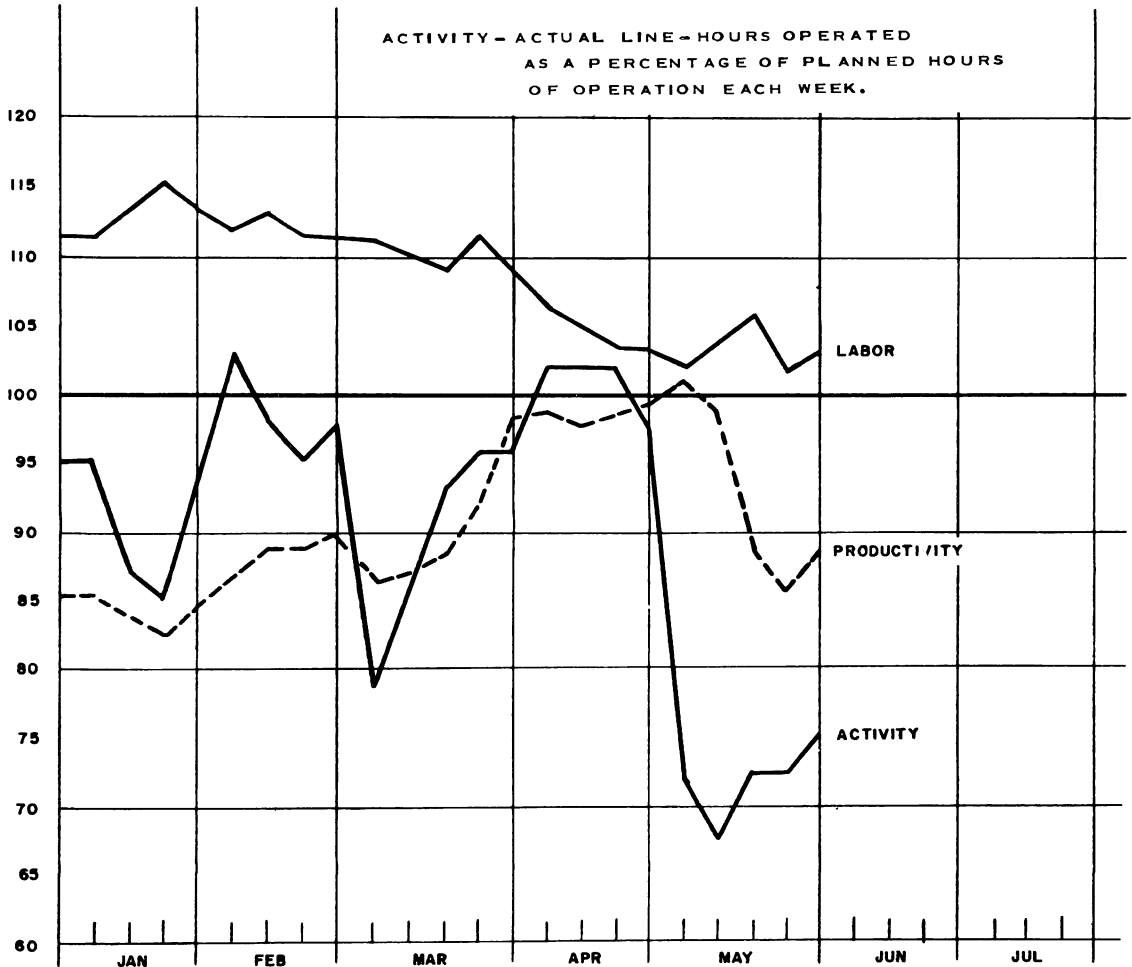
The Budgetary system, as described, is expandable to complete Standard Cost Accounting. The principal modification would consist of provisions for standard or budgeted materials prices and for materials variances. As in the

**Fancy Poultry Co.  
Anywhere, U. S. A.**

**WEEKLY RATIO CHART  
PACKING**

LABOR - CENTS PAID FOR EACH 100 CENTS  
EARNED BY PRODUCTION.

PRODUCTIVITY - BIRDS ACTUALLY HUNG COMPARED  
TO EACH 100 BIRDS WHICH SHOULD  
HAVE BEEN HUNG AT STANDARD SPEED.



LABOR AND PRODUCTIVITY - OVER 100 - UNFAVORABLE  
ACTIVITY - OVER 100 - FAVORABLE

Figure 39



case of labor and overhead, the materials variance can be separated into two or more sub-variances, such as price and quantity (or yield).

While prices of some materials remain comparatively stable over long periods, market prices of the prime material (live birds) fluctuate from day to day, making it difficult to establish standards. Standard cost controls, however, have many advantages which frequently warrant the effort required to establish and maintain reasonably useful material price standards. Accounting personnel knowledgeable in standard costing techniques should experience no difficulty in completing an extension of the Budgetary system to that point, if desired.

#### INCOME STATEMENT ARRANGEMENT

The volume and types of detailed information available under the Budgetary system permit various Statement of Income formats to be used. Figure 16 shows one example. In this case, some variety is illustrated, such as the degree of overhead detail, period-to-period comparisons, year-to-date trends, and the like. The existing circumstances and the needs and preferences of management personnel will dictate the format suitable to a particular company.

#### SELLING AND GENERAL ADMINISTRATION EXPENSES

The procedure illustrated in this Part III does not provide for identification of selling and administration costs to specific products. Various methods of allocation may be used to assign these expenses to products, and the appropriate method will depend upon the circumstances. Total product costs, determined by the addition of such expenses to processing costs, are frequently useful in making decisions on pricing and product profitability, as well as for statistical purposes.

#### PLANT REPORT

The Plant Report, figure 32, for this Part III is similar to the Plant Report illustrated in Part II as figure 7. The variations discussed in Part II under "Alternatives and Exceptions" are also appropriate to plants using the system described in this Part.

#### CONCLUSION

Cost reporting on a budgetary basis, as outlined in this section, is designed for larger, more diversified plants. Provision has been made for decentralizing responsibility for cost control to plant supervision. Through the use of budgets and operating standards, process and product costs are predetermined to serve as goals for measuring performance in the control of cost. Data is provided at major control points for the control of labor and overhead costs. Through extension of these procedures, material cost can be included, and a full standard cost accounting system adopted as part of the formal accounting procedures for the plant or company.

## APPENDIXES

1. Chart of Accounts and Account Codes.
2. Definitions and Description of Accounts.
3. Alternative Determination of Line-Hours  
Operated, by Bird Types and Weight  
Categories.
4. Profitability Comparison.
5. Profitability Determinations for Various  
Bird Parts.
6. Treatment of Special Accounting Problems.
7. Marketing and Distribution Costs.
8. Table of Recommended Bird Categories.

## APPENDIX 1

### CHART OF ACCOUNTS AND ACCOUNT CODES

Because the basic purpose of this Guide is to improve cost accounting, record-keeping, and reporting techniques in the poultry processing industry, attention has been directed to plant operations. For this reason, references in this manual to accounting records have usually been made to the operating accounts for costs and expenses. Obviously, these operating accounts must be integrated into a complete accounting system.

The purpose of Appendix 1 is to illustrate a complete chart of accounts, including the operating accounts. A set of definitions and descriptions of the content of these operating accounts follows in Appendix 2. Appendix 1 also includes a set of account codes which facilitate and minimize the work required in the processing of accounting data.

The illustrated chart of accounts with related account codes is segregated into the following sections:

Balance sheet accounts

Sales, cost of sales, and other income and expense accounts

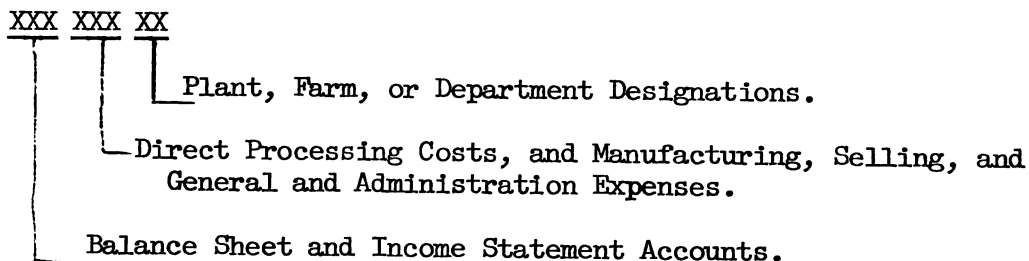
Direct costs

Overhead and other expense accounts

Farm, plant, and departmental designations

The chart of accounts and related account codes is presented in considerable detail; few companies will need such a comprehensive structure. The chart and codes can be adapted to individual company needs by consolidating and eliminating various accounts and, in a few instances, by expanding the accounts.

The code structure included with the illustrated chart of accounts is known as a numeric code and comprises eight digits, for use as follows:



The code structure illustrated, limited as it is to numerals, is the type most easily adaptable to tabulating systems. Other systems, such as an alpha-numeric code, may be used to advantage in manual systems. For example, as an adaptation of the above code structure, a segregation of bank accounts under account 112 might be as follows:

112	Cash in banks
112A	Cash in bank A
112B	Cash in bank B

The construction of the code is extremely important in the accounting system for larger enterprises. The coding requirements depend upon the complexity of plant operations and upon the information required from the systems. The objective in formulating any code is to find the simplest code scheme which will fulfill the requirements.

### BALANCE SHEET ACCOUNTS

The balance sheet accounts follow the conventional accounting pattern. Poultry processing companies which operate diversified activities such as locker plants, frozen meat pie plants, feed mills, fertilizer plants, and by-product plants can separate the income and expenses for each of the activities by the use of farm, plant, or departmental designations.

#### Current Assets and Related Reserves

- 110 Cash
  - 111 Petty cash funds
  - 112 Cash in banks
    - If a further segregation is desired, for example, by petty cash fund or type of account, additional codes may be used.
  - 119 Cash in transit
- 120 Accounts receivable
  - 121 Accounts receivable - Trade
    - If a further segregation of accounts receivable - trade is desired, for example, by eggs, chicks, feed, live poultry, iced poultry, etc., or types of customers, additional codes may be used.
  - 123 Accounts receivable - Officers and employees
  - 124 Accounts receivable - Other
  - 125 Interest receivable
  - 126 Rent receivable
  - 129 Allowance for doubtful accounts
- 130 Notes receivable
  - 131 Notes receivable - Trade
  - 132 Notes receivable - Officers and employees
  - 133 Notes receivable - Other
  - 138 Notes receivable discounted
  - 139 Allowance for doubtful notes

- 140 Marketable securities
  - 141 United States Government securities, at cost
  - 148 Other marketable securities, at cost
  - 149 Allowance for decline in securities values
- 160 Inventories - Direct materials
  - 161 Poultry feed
  - 162 Laying poultry
  - 163 Growing poultry on farms
  - 164 Poultry in process at plants
  - 165 Processed poultry in bulk
  - 166 Packaged poultry
  - 167 Processing materials
- 170 Inventories - Indirect materials
  - 171 Supplies and repair parts
    - A further segregation of supplies and repair parts can be obtained by use of departmental codes shown on pages 109 and 110. For example: 171 XXX 12 represents supplies and repair parts for the eviscerating plant; the 4th, 5th, and 6th digits would not be used.
  - 176 Auto and truck supplies and parts
  - 177 Gasoline and lubricants
  - 178 Office supplies
  - 179 Fuels for heating and process steam

#### Property, Plant, and Equipment

- 210 Land
  - 211 Farms
  - 212 Plant sites
- 220 Buildings
  - 221 Farm buildings
  - 222 Plants
  - 228 Accumulated depreciation - Buildings
  - 229 - Plants
- 230 Leasehold improvements
  - 231 Leasehold improvements
  - 239 Accumulated amortization of leasehold improvements
- 240 Machinery and equipment
  - 241 Farm equipment
  - 242 Dressing equipment
  - 243 Eviscerating equipment
  - 244 Cutting equipment
  - 245 Packaging equipment
  - 246 Ice plant equipment
  - 248 Office furniture and equipment
  - 249 Accumulated depreciation - machinery and equipment

- 250 Transportation equipment
- 251 Pick-up trucks
- 252 Delivery trucks
- 253 Buses
- 257 Automobiles
- 258 Aircraft
- 259 Accumulated depreciation - Transportation equipment. A further segregation of fixed assets may be desired. Additional codes may be used, or the fixed assets may be segregated by using the farm, plant, and departmental designations as illustrated under account 171 - supplies and repair parts.

#### Other Assets

- 260 Investments
- 261 Miscellaneous security investments
- 262 Cash surrender value of life insurance
- 268 Rental properties
- 269 Accumulated depreciation - Rental properties

#### Prepaid Expenses and Deferred Charges

- 270 Intangible assets
  - 271 Patents
  - 272 Trademarks
  - 273 Goodwill
  - 279 Accumulated amortization - Patents and trademarks
- 
- 280 Prepaid expenses
  - 281 Prepaid rent
  - 282 Prepaid insurance
  - 283 Prepaid taxes
  - 284 Prepaid interest

#### Liabilities

- 310 Accounts payable
  - 311 Accounts payable - Trade
  - 312 Accounts payable - Other
  - 313 Social security taxes withheld from employees
  - 314 Federal income taxes withheld from employees
  - 315 State and city income taxes withheld from employees
  - 319 Customers' advance deposits
- 
- 320 Notes payable
  - 321 Notes payable - Bank
  - 322 Notes payable - Trade
  - 323 Notes payable - Other
  - 324 Current portion of long-term liabilities

330 Accrued liabilities  
331 Federal income taxes accrued  
332 Salaries and wages accrued  
333 Commissions accrued - Salesmen  
334 Commissions accrued - Distributors and agents  
335 Employees' vacation pay accrued  
336 Social security taxes accrued - Employer's portion  
337 State and local taxes accrued  
338 Interest accrued  
339 Compensation insurance accrued

350 Long-term liabilities  
351 First mortgages

Stockholders' Equity (If incorporated)

410 Capital stock  
411 Preferred stock  
416 Common stock  
421 Additional paid-in capital  
422 Retained earnings  
423 Other charges to surplus  
424 Other credits to surplus  
425 Current profit and loss  
428 Dividends, preferred stock  
429 Dividends, common stock

Net Worth (If a proprietorship or partnership)

410 Capital  
411 Capital - Partner A  
412 Capital - Partner B, etc.  
  
420 Withdrawals - current  
  
430 Profit and loss - current

SALES, COST OF SALES, AND OTHER INCOME AND EXPENSE ACCOUNTS

500 Sales  
501 Sales - Product group A  
502 Sales - Product group B  
549 Sales - Byproducts  
  
550 Returns and allowances  
551 Product group A  
552 Product group B  
558 Discounts allowed

- 600 Cost of sales
  - 601 Product group A
  - 602 Product group B
  - 608 Purchase discounts
  - 649 Cost of sales - byproducts
  
- 700 Direct charges
  
- 750 Manufacturing expenses
  
- 760 Selling expenses
  
- 770 General and administration expenses
  
- 800 Other income
  - 802 Interest
  - 803 Dividend
  - 804 Profit on sundry sales
  - 805 Rental income
  - 806 Profit on sales of fixed assets
  - 807 Profit on sales of investments
  - 808 Royalties received
  - 809 Miscellaneous income
  
- 850 Other charges
  - 852 Interest
  - 853 Idle plant costs
  - 854 Inventory markdowns and shrinkage
  - 855 Bank service charges
  - 856 Miscellaneous charges
  
- 860 Taxes on income
  - 861 City income tax
  - 862 State income tax
  - 863 Federal income tax

#### DIRECT COSTS

All direct processing costs, that is, direct materials and direct labor under the basic code of 700 - Direct charges, should be further segregated using the 4th, 5th, and 6th code position, as follows:

- 010 Direct labor
  
- 020 Chickens
  - 021 Broilers or fryers
  - 022 Roasters
  - 023 Capons
  - 024 Stags
  - 025 Cocks
  - 026 Hens



- 030 Turkeys
  - 031 Fryers or roasters
  - 032 Young hens and toms
  - 033 Hens and toms
- 040 Other poultry
  - 041 Ducks
  - 042 Geese
  - 043 Guineas
  - 044 Squabs and pigeons
- 050 Ice and freezer storage charges
  - 051 Ice-chilling
  - 052 Ice-packing
  - 056 Freezer plant charges or costs
- 060 Cooking materials
  - 061 Fats
  - 062 Flour
  - 063 Bread, etc.
- 070 Packing materials
  - 071 Poultry wrappers
  - 072 Boxes
  - 073 Box wrappers
  - 074 Cartons
  - 075 Cases
  - 076 Cans
  - 077 Drums

The listed direct materials classifications apply to poultry processing activities. When operations comprise other activities, such as producing farms, byproducts plants, and specialty products plants, similar appropriate classifications and account codes should be developed.

#### OVERHEAD AND OTHER EXPENSE ACCOUNTS

Overhead and other expense accounts, classified originally as 750 - Manufacturing expenses, 760 - Selling expenses, and 770 - General and administration expenses, should be segregated further, using the 4th, 5th, and 6th code positions, as shown in the following list. Suggested bases of allocation of the expense accounts is included. Accounts designated by an asterisk (\*) are applicable only to selling expenses or general and administration expenses, and allocation is usually not necessary.

<u>Account</u>	<u>Basis for Allocation</u>
100 <u>Supervision and Indirect Labor</u>	
111 Salaries - Supervision )	Direct charge or Payroll (direct labor)
112 Salaries - Technical and professional )	

<u>Account</u>	<u>Basis for Allocation</u>
113 Salaries - Salesmen *	
114 Commissions - Salesmen *	
115 Salaries - Secretarial )	
116 Salaries - Clerical )	
117 Bonuses - Salaried personnel )	Direct charge or Payroll
121 Wages - Indirect labor )	(direct labor)
122 Wages - Quality control )	
123 Wages - Rework labor )	
 200 <u>Other Related Payroll Costs</u>	
211 Overtime premium )	Direct charge or Payroll
212 Shift premium )	(direct labor)
221 Vacation pay )	
222 Severance pay )	
231 Annuity costs )	
232 Pension costs )	
251 Compensation insurance )	Payroll (direct labor)
252 Group insurance )	
261 Social security taxes )	
262 Unemployment benefit taxes )	
 300 <u>Supplies and Facilities</u>	
311 Fuels - Heating and process steam	Direct charge or Floor space
312 Power and light	Horsepower requirements
313 Water	Direct charge
314 Sewerage disposal	Direct charge
321 General supplies	Payroll or equalized equipment value
331 Departmental supplies	Direct charge
332 Office supplies	Payroll
333 Lubricants	Equalized equipment values or Transportation Department direct or Transportation inward and outward
334 Auto and truck fuels	Transportation department direct or Transportation inward and outward
341 Postage *	
342 Advertising materials *	
 400 <u>General Expense</u>	
411 Procurement - Birds )	Direct to dressing department
412 Transportation in )	
421 Repairs and maintenance - Buildings	Floor space

<u>Account</u>	<u>Basis for Allocation</u>
422 Repairs and maintenance - Equipment	Equalized equipment value
429 Royalties expense	Direct charge or equalized equipment values
431 Professional services )	
432 Inspection fees )	Direct charge or Payroll
433 Weighing fees )	(direct labor)
441 Dues and subscriptions *	
451 Conventions and entertainment *	
452 Travel expense *	
461 Donations *	
462 Bad debts *	
463 Directors' fees and expenses *	
471 Airplane expense *	
472 Telephone, teletype, and telegraph )	
	Direct charge or allocations
	as explained on page 115
491 Advertising - direct *	
492 Advertising - agency *	
493 Commissions - distributors, jobbers, and agents *	
494 Public Relations Expense *	
498 Warehousing charges *	
499 Transportation out *	
<u>500 Fixed Charges</u>	
511 Depreciation - Buildings	Floor space
512 Depreciation - Machinery and equipment	In place equipment values or actual direct
513 Depreciation - Office Fixtures	Department direct or Payroll (direct labor)
515 Amortization - Leasehold improvements	Floor space
516 Amortization - Intangibles *	Floor space
521 Taxes - Property	Floor space
522 Taxes - Other *	Floor space
531 Insurance - Property	In place equipment values
532 Insurance - Machinery and Equipment	Payroll (direct labor)
535 Insurance - Other	
539 Life Insurance - Officers *	
541 Rent - Occupied space )	Floor space or direct charge
542 Rentals - Machinery and equipment )	

## FARM, PLANT, AND DEPARTMENTAL DESIGNATIONS

Poultry processing may be the sole activity of a company or it may be only one of the company's activities. The following illustrates the coding of farm, plant, and departmental designations for a large company with several activities. A plant engaged solely in poultry processing would use only the Plants - Poultry processing section (below) together with the necessary sales service and administrative departments.

### FARMS

01	Feed farms
02	Laying flock
03	Growing flock

### PLANTS

07	Hatchery
08	Egg marketing
10	Poultry processing
11	Dressing
12	Eviscerating
13	Cutting
14	Cooking
16	Packaging
17	Canning
18	Freezing
20	Ice manufacture
23	Freezer
24	Feed mill
30	Specialty products
31	Chicken pies
32	Turkey pies
33	Beef pies
34	Fruit pies
40	Byproducts
41	Fertilizer
42	Poultry feed
43	Small animal food
45	Facilities
46	Heat and power
47	Water
48	Sewage disposal

### SERVICE PLANT OVERHEAD DEPARTMENTS

50	Research and quality control
51	Research
52	Experimental farms
53	Feed crops
54	Poultry

59	Quality control
60	Plant engineering
61	Engineering
64	Plant repair shops
65	Transportation (Auto and truck storage and repair shops)
66	Transport in
67	Autos
68	Buses
69	Transport out
70	Cost and payroll
71	Cost accounting
72	Payroll accounting
75	Personnel
76	Personnel administration and training
77	Medical
80	Methods and time study engineering

#### GENERAL OVERHEAD DEPARTMENTS

85	Sales
86	Sales general
87	Advertising and sales promotion
89	Warehousing and distribution
90	General administration
91	Administrative offices
92	General accounting
93	Legal
94	Office services

Companies operating plants for power, ice, water, or offal processing may wish to account for these operations separately, as explained in Appendix 6. When separate accounting treatment is made, equitable allocations of departmental charges or credits should be made.

## APPENDIX 2

### DEFINITIONS AND DESCRIPTIONS OF ACCOUNTS

The content of balance sheet, sales, cost of sales, and other income and expense accounts are dependent upon specific company requirements and generally accepted accounting procedures and practices. These accounts are, therefore, not further defined nor described in this appendix. The operating accounts relate directly to the cost accounting and reporting practices described in Parts I, II, and III of this Guide and are defined and described below:

#### DIRECT COST ACCOUNTS

Direct labor. Straight-time wages for work which adds to or changes the character of the product. Also includes straight-time wages for services directly related to production, that is, services performed in conjunction with production operations. An example of the latter type would be straight-time wages for furnishing wrapping or packaging materials to the packing line.

Direct labor accounts normally should be segregated by departments and by cost centers.

Direct materials. Prime direct material - birds (hen, broiler, turkey, etc.) - or its parts in the cut-up state. Direct material also includes items which accompany the prime direct material to the customer and which are consumed in proportion to the prime direct material, for example, packing ice, wrappers, boxes, and cartons.

#### OVERHEAD ACCOUNTS

##### Supervision and Indirect Labor

Salaries - Supervision. Salaries of supervisory and executive personnel. Excludes salaries of specialists, which are chargeable to Salaries - Technical and professional.

Salaries - Technical and professional. Salaries of persons whose activities require technical and professional training but who exercise no supervisory authority. Examples of such specialists are: physicians and nurses, method and time study engineers, draftsmen and designers, and chemists or agriculturalists engaged in research. Salaries of specialists who supervise a group of employees should be charged to Salaries - Supervision.

Salaries - Salesmen. Salaries of persons selling or taking orders for company products. When such a person qualifies as a supervisor, his salary should be charged to Salaries - Supervision.

Commissions - Salesmen. All commissions paid to company salesmen. Commissions paid to outside agencies are chargeable to Commissions - Distributors, jobbers and agents.

Salaries - Secretarial. Salaries paid to secretaries of supervisors or executives. Does not include salaries of clerk-typists.

Salaries - Clerical. Salaries paid to persons engaged in clerical activities, such as supply room clerks, clerk-typists, timekeepers, cost clerks, and mail clerks.

Bonuses - Salary personnel. Includes year-end, Christmas, profit sharing, productivity, or other bonuses paid to salaried personnel, including non-exempt salaried personnel. Amounts paid as part of a production incentive wage payment plan should be charged to direct labor.

Wages - Indirect labor. All hourly wages not chargeable to direct labor, wages - quality control, and wages - rework labor.

Wages - Quality control. Hourly wages paid to persons exercising quality control functions under research departments or general plant supervision.

Wages - Rework labor. Hourly wages paid for reworking rejected poultry or other direct materials. The account is optional; its use gives some measurement of the quality of work performed in various stages of poultry processing.

#### Other Related Payroll Costs

Overtime premiums. All overtime premiums paid under company policies or wage and hour legislation.

Shift premium. All premium payments to hourly wage personnel for work performed on other than the first shift. Differentials in salaries paid off-shift personnel are not segregated but are considered part of salary costs.

Vacation pay. Cost of vacations of hourly paid personnel.

Severance pay. Salaries and wages applicable to the period following the severance date. Any allowance for earned vacation included in a final pay should be charged to the vacation pay.

Annuity costs. Company contributions to any annuity fund for salaried or wage personnel.

Pension costs. Company contributions to any pension fund for salaried or wage personnel.

Compensation insurance. Premiums paid or other costs of workmen's compensation insurance. Does not include payments under a group insurance plan for medical and hospital benefits or for unemployment benefits.

Group insurance. Contributions made by the company to group insurance plans.

Social security and Unemployment benefit taxes. Contributions required of the company in conformance with State and Federal legislation.

### Supplies and Facilities

Fuels - Heat and process steam. All fuels, such as coal, fuel oil, and gas, consumed in heating the plant and in providing steam for the processing operations.

Power and light. Cost of electricity purchased from outside sources or cost of operating a company-owned power plant.

Water. Cost of water purchased from outside sources or cost of operating a company-owned water filtration plant.

Sewerage disposal. Costs incurred for special disposition of process wastes or cost of operating a company-owned disposal plant.

General supplies. Supplies which, because of their character, cannot be segregated conveniently to department or office supplies categories, such as cleaning supplies, light bulbs and tubes, paint, and minor electrical fixture replacements.

Departmental supplies. Supplies peculiar to processing departments and general supplies issued to departments.

Office supplies. Supplies used in clerical, supervisory, and executive offices, such as stationery, filing materials, and typewriter ribbons.

Lubricants. Lubricating oils and greases consumed.

Auto and truck fuels. Gasoline and diesel motor fuel consumed by transportation equipment.

Postage. Postage other than parcel post on incoming materials or on outgoing products.

Advertising materials. Materials consumed in placing the company's product before the public, such as calendars and bookmatches.



## General Expenses

Procurement - Birds. Costs incurred in procuring birds.

Transportation in. Cost of hauling live poultry to the plant.

Includes payments to outside truckers for hauling poultry to the plant and, if the company operates a fleet of trucks, that portion of the cost of fleet operation related to hauling poultry to the plant.

Repairs and maintenance - Building. Costs of repair and maintenance of buildings.

Repairs and maintenance - Equipment. Costs of repair and maintenance of equipment. Equipment comprises processing, farm, office, and advertising equipment and equipment used in repairing other equipment. Does not include repairs and maintenance of motor vehicles.

Royalties expense. Royalties paid for the use of processing equipment or methods. Royalties paid for trademarks, slogans, and other similar items should be charged to selling expenses.

Professional services. Fees paid to legal counsel, accounting and auditing firms, and for other outside professional assistance.

Inspection fees. Fees paid to government and private agencies for sanitation, quality, safety, and other inspection services.

Weighing fees. Fees and expenses paid for weighing services.

Dues and subscriptions. Membership fees, periodic dues to trade associations, and cost of subscriptions to trade journals and magazines. Does not include contributions to charitable organizations.

Conventions and entertainment. Costs of attendance at and travel to and from trade conventions and meetings. Meals and other expenses incurred entertaining customers or other company guests. Does not include payments to associations which conduct conventions.

Travel Expense. Costs of travel, fares, meals, and hotels incurred by company personnel or outsiders while traveling on company business. Does not include expenses reimbursed in connection with professional services and travel expenses reimbursed to outside personnel conducting weighing and inspection services.

Donations. Payments to agencies defined as "charitable agencies" by the Internal Revenue Service.

Bad debts. Includes bad debts charged off, or periodic provisions for doubtful accounts if the company maintains an Allowance for Doubtful Accounts.

Directors' fees and expenses. Amounts paid to directors for attendance at board meetings and for other directors' activities.

Airplane expense. Costs, including depreciation, of aircraft owned.

Telephone, teletype, and telegraph. Includes rental on installed communication equipment and toll charges (including any taxes) for long distance communications. Toll charges should be charged to appropriate departments or activities. Rental costs should be charged to the department having supervision of the services, unless the rental can be prorated on an equitable basis to departments and activities.

Advertising - direct. Costs of direct advertising programs developed and directed by the sales department. Does not include fees to outside agencies.

Advertising - Agency. Fees paid to outside agencies handling advertising programs by published media, radio, and television.

Commissions - Distributors, jobbers, and agents. Commissions paid to distributors, jobbers, and agents through which company products are sold or distributed. Does not include commissions paid to salesmen on the company payroll.

Public relations expense. Costs incurred in placing the company name and policies before the public. Does not include costs of advertising aimed at selling the company products. Contributions to, or space purchased in periodicals of, civic institutions, expenses of participation in public affairs and activities (parade, fairs, etc.), and costs of congratulatory advertising of new local companies are examples of costs to be charged to this account.

Warehousing charges. Rentals paid for warehouse space. Also includes expenses of a company-operated warehouse.

Transportation out. Cost of transporting finished products to customers, distributors, or outlying storage facilities. If the company operates a fleet of trucks, that portion of the cost of fleet operation related to transporting the finished product should be charged to Transportation out. Instructions for allocating fleet costs are shown on page 128.

## Fixed Charges

Depreciation - Buildings

Depreciation - Machinery and equipment

Depreciation - Office fixtures

Amortization - Leasehold improvements - the various methods available for determining periodic depreciation and amortization charges are not described in this manual. The method of allocating depreciation and amortization to departments is described in Part II and in Part III.

Amortization - Intangibles. Periodic writeoff of the original cost of patents, trademarks, goodwill, and the like.

Taxes - Property. Taxes on land and buildings.

Taxes - Other. Taxes such as franchise and excise taxes. Does not include property, social security, and income taxes.

Insurance - Property. Cost of insurance on physical properties such as buildings and inventories. Does not include insurance on machinery and equipment.

Insurance - Machinery and equipment. Cost of insurance on machinery and equipment.

Insurance - Other. Premiums on insurance policies for use and occupancy, riot and civil commotion, public liability, etc. Does not include payments for compensation insurance, insurance on physical property, life insurance premiums, or contributions to group insurance plans.

Life Insurance - Officers. Premiums paid for insurance on lives of officers, executives, and key personnel reduced by the current increase in the cash surrender value of the insurance.

Rent - Occupied space. Rentals paid for occupied real estate.

Rentals - Machinery and equipment. Rentals paid on machinery or equipment.

### APPENDIX 3

#### ALTERNATIVE DETERMINATION OF LINE-HOURS OPERATED, BY BIRD TYPES AND WEIGHT CATEGORIES

Plants which change the conveyor speed when changing their processing from one bird category to another during the course of a day or week may wish to adopt the following refinements to the methods of allocating hours of operation to various bird categories.

Part I of this Guide provides that total operating hours be allocated to the various categories of birds in proportion to "Birds Out" or "Bird Production - Actual" quantities on the Production and Cost Report. If various categories of birds are processed at different conveyor speeds, the method suggested in Part I produces distorted results. Since different conveyor speeds are used, compensating adjustments must be made in the costing technique.

The number of birds processed in each category is obtainable from counters at the automatic weight segregation apparatus or through other means, such as summarization of invoices or packing or shipping records. The conveyor speed in effect at the time each category is processed may or may not be available. If the conveyor speed is not available, "standard" or optimum speeds should be determined. From these two factors, available for each bird and weight category, the determination of "Hours Operated" can be made.

As an example, assume the following as either actual or standard conveyor speeds:

<u>Category</u>		<u>Rate Per Hour</u>
Fryers	- 1.9 lbs.	3,600
Broilers	2.0 - 2.4 lbs.	3,000
Broilers	2.5 - 2.9 lbs.	3,000
Broilers	3.0 -     lbs.	2,700
Roasters	- 3.9 lbs.	2,700
Roasters	4.0 -     lbs.	2,700
Turkey Hens	8.0 - 15.9 lbs.	1,800

Assume also that for a given week the plant processed the following quantities of birds while operating eight line-hours.

<u>Category</u>		<u>Number Processed</u>
Fryers	- 1.9 lbs.	87,532
Broilers	2.5 - 2.9 lbs.	50,647
Broilers	3.0 -     lbs.	42,856
Roasters	- 3.9 lbs.	12,783
Roasters	4.0 -     lbs.	26,433
Turkey Hens	8.0 - 15.9 lbs.	6,160

From this information the following computations can be made:

				...Hours Operated...		
				Elapsed		
				Hours		
<u>Category</u>			<u>Number</u> <u>Processed</u>	<u>Rate</u> <u>Per</u> <u>Hour</u>	<u>Theoretical</u>	<u>Prorated</u>
Fryers	-	1.9 lbs.	87,532	3,600	24.31	25.9
Broilers	2.5 -	2.9 lbs.	50,647	3,000	16.88	18.0
Broilers	3.0 -	lbs.	42,856	2,700	15.87	16.9
Roasters	-	3.9 lbs.	12,783	2,700	4.73	5.0
Roasters	4.0 -	lbs.	26,493	2,700	9.81	10.5
Turkey Hens	8.0 -	15.9 lbs.	6,180	1,800	3.43	3.7
Total.....					<u>75.03</u>	<u>80.0</u>

The theoretical hours operated for each bird category are thus factored by the relationship between total theoretical hours and total actual hours. Time losses or inefficiencies can be further localized by recording the hours at which changes in speed are made to the conveyor-line. Elapsed times are thus obtained by subtraction. Further refinements can be made to this procedure by recording additional data at the processing lines.

## APPENDIX 4

### PROFITABILITY COMPARISON

Figure 40 illustrates that the classification of poultry which produces the highest percentage of profit, or which produces the highest profit per pound, may not necessarily be the most profitable from the company's viewpoint. In this illustration, even though broilers weighing 2.5 to 2.9 lbs. produce the highest percentage of profit, and roasters weighing 4 lbs. and over, produce the highest profit to the company per pound, turkey hens weighing 8.0 to 15.9 lbs. produce the most dollars of profit (provided, of course, that this category of poultry can be sold and financed). Care should therefore be exercised in using unit cost and profit data or profits as a percentage of sales prices in making decisions as to which products or mix of products to produce.

FANCY POULTRY CO.  
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PROFITABILITY COMPARISON

	.....BIRD AND WEIGHT CATEGORIES.....					
	FRYERS	BROILERS	BROILERS	ROASTERS	ROASTERS	TURKEY HENS
	-1.9	2.0-2.4	2.5-2.9	-3.9	4.0-	8.0-15.9
<hr/>						
CENTS PER POUND:						
Selling price....	27.5000¢	28.2500¢	29.8500¢	34.2500¢	35.5000¢	37.0000¢
Cost - sold.....	<u>27.3453</u>	<u>27.6823</u>	<u>26.0466</u>	<u>31.4981</u>	<u>31.0875</u>	<u>33.6644</u>
Profit - sold....	<u>.1547¢</u>	<u>.5677¢</u>	<u>3.8034¢</u>	<u>2.7519¢</u>	<u>4.4125¢</u>	<u>3.3356¢</u>
% OF SELLING PRICE.....	0.56	2.01	12.74	8.03	12.43	9.02
PRODUCTION PER LINE PER WEEK:						
Speed per line- hour.....	<u>3,600</u>	<u>3,000</u>	<u>2,700</u>	<u>2,700</u>	<u>2,700</u>	<u>1,800</u>
Hours (5 days).	<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>
PRODUCTION AT 100% (Capacity) Birds.....	144,000	120,000	108,000	108,000	108,000	72,000
AVERAGE WEIGHT - Ready-to-cook.	1.782	2.381	2.693	3.487	4.386	11.423
PRODUCTIVITY & BIRD YIELD - %	<u>97.50</u>	<u>97.50</u>	<u>97.50</u>	<u>97.50</u>	<u>97.50</u>	<u>97.50</u>
POUNDS/LINE/WEEK	<u>250.193</u>	<u>278,577</u>	<u>283,573</u>	<u>367,181</u>	<u>461,846</u>	<u>801,895</u>
PROFIT/LINE/WEEK	<u>\$387</u>	<u>\$1,581</u>	<u>\$10,785</u>	<u>\$10,104</u>	<u>\$20,379</u>	<u>\$26,748</u>
<hr/>						

Figure 40

## APPENDIX 5

### PROFITABILITY DETERMINATIONS FOR VARIOUS BIRD PARTS

The poultry processor does not enjoy the privilege of purchasing, processing, and selling only those parts which result in the best profit. Instead, he must purchase the entire bird and market whole birds or parts at prices which reflect consumer tastes. This illustration sets forth a method of estimating the gross profit from various product "mixes."

Four alternatives are illustrated in figure 41 - whole birds and three differing product mixes of parts. Any additional product "mixes" which management deems informative may be similarly determined by following the technique illustrated.

Poundage figures of parts obtained from the whole eviscerated birds used in the components of the mix may be obtained from plant records or from test runs. Poundages and applicable costs should be net, after losses in cutting and packaging. In the illustration, the poundage figures and percentages for the three "mixes" were assumed to have been calculated from plant records of three processing runs, as follows:

	.....Mix No.....					
	1		2		3	
Eviscerated birds:						
Number.....	1,782		1,495		1,842	
Pounds.....	4,008		3,368		4,152	
After cutting:	<u>Lbs.</u>	<u>%</u>	<u>Lbs.</u>	<u>%</u>	<u>Lbs.</u>	<u>%</u>
Half-birds.....	3,331	83.1				
Backs.....			374	11.1	461	11.1
Breasts.....			977	29.0	1,204	29.0
Legs.....			1,078	32.0		
Thighs.....					714	17.2
Drumsticks.....					614	14.8
Livers.....	120	3.0	101	3.0	125	3.0
Gizzards and hearts...	160	4.0	135	4.0	166	4.0
Necks.....	317	7.9	266	7.9	328	7.9
Wings.....			370	11.0	457	11.0
Shrink.....	<u>80</u>	<u>2.0</u>	<u>67</u>	<u>2.0</u>	<u>33</u>	<u>2.0</u>
Total.....	4,008	100.0	3,368	100.0	4,152	100.0

For comparison, the percentage figures above become the breakdown of 100-pound lots of eviscerated birds cut up into the various mixes, as shown in figure 41. For this illustration, costs computed on figures 29 and 30 are adjusted by the following factors:

- (1) Materials - Birds are adjusted to a basis of 17¢ per pound live weight.



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PROFITABILITY DETERMINATION AS OF					, 19		
MIX NO.	TYPE PACK	POUNDS	..SALES VALUE..		PROCESSING .....COST.....		GROSS*
			LB.	AMOUNT	LB.	AMOUNT	
	Whole birds	<u>100.0</u>	34.100¢	<u>\$34.10</u>	28.300¢	<u>\$28.30</u>	\$5.80
1.	Half birds	83.1	34.600¢	\$28.75	28.644¢	\$23.80	
	Livers	3.0	80.100	2.40	32.442	.97	
	Gizzards and hearts	4.0	27.000	1.08	31.514	1.26	
	Necks	<u>7.9</u>	7.200	<u>.57</u>	31.516	<u>2.49</u>	
	Total	<u>98.0</u>		<u>\$32.80</u>		<u>\$28.52</u>	4.28
2.	Backs	11.1	7.200¢	\$ .80	31.466¢	\$ 3.49	
	Breasts	29.0	49.500	14.36	33.433	9.70	
	Legs	32.0	47.100	15.07	33.020	10.57	
	Livers	3.0	80.100	2.40	32.442	.97	
	Gizzards and hearts	4.0	27.000	1.08	31.514	1.26	
	Necks	7.9	7.200	.57	31.516	2.49	
	Wings	<u>11.0</u>	26.100	<u>2.87</u>	32.411	<u>3.57</u>	
	Total	<u>98.0</u>		<u>\$37.15</u>		<u>\$32.05</u>	5.10
3.	Backs	11.1	7.200¢	\$ .80	31.466¢	\$ 3.49	
	Breasts	29.0	49.500	14.36	33.433	9.70	
	Thighs	17.2	47.600	8.19	32.893	5.66	
	Drumsticks	14.8	47.400	7.02	32.755	4.85	
	Livers	3.0	80.100	2.40	32.442	.97	
	Gizzards and hearts	4.0	27.000	1.08	31.514	1.26	
	Necks	7.9	7.200	.57	31.516	2.49	
	Wings	<u>11.0</u>	26.100	<u>2.87</u>	32.411	<u>3.57</u>	
	Total	<u>98.0</u>		<u>\$37.29</u>		<u>\$31.99</u>	<u>\$5.30</u>

\* Per 100 pounds of eviscerated birds.

Figure 41

- (2) Costs for cutting into half-birds are based on a productivity rate of 5,400 pounds per man-hour.
- (3) Selling prices and other cost adjustment factors are:

<u>Items</u>	Selling	....Packing Factors.....	
	Prices <u>Per Pound</u>	Production <u>(lbs./hour)</u>	Materials <u>Per Pound</u>
Whole birds (including giblets)	34.100¢	700	0.175¢
Half birds.....	34.600	675	0.225
Backs.....	7.200	250	0.200
Breasts.....	49.500	140	0.905
Whole legs.....	47.100	160	0.850
Thighs.....	47.600	165	0.800
Drumsticks.....	47.400	175	0.800
Livers.....	80.100	100	0.875
Necks.....	7.200	250	0.250
Gizzards and hearts..	27.000	125	0.750
Wings.....	26.100	180	0.520

The results shown in figure 41 indicate a more favorable gross margin when birds are sold in the uncut state. However, management must include a factor of idle plant costs in a decision to sell birds as such and not operate the cutting department.

## APPENDIX 6

### TREATMENT OF SPECIAL ACCOUNTING PROBLEMS

The flexibility and adaptability of the basic cost and financial accounting system has been emphasized previously. A description of the procedures and instructions for the handling of the various accounting problems which may arise in the industry as a whole is not practical. However, for some of the more common problems, suggested accounting treatments are contained in this appendix.

#### SPECIAL TREATMENT OF A DIRECT CHARGE

The case used in Part II, an illustration of cost reporting on a departmental basis, indicated that the plant concerned "ships both ice-packed and frozen birds in the whole, half, and cut-up state." The separation of ice costs and freezer costs between ice-packed and frozen birds was assumed to be unnecessary. However, volume and pricing factors may warrant a separation of these costs. Figure 42 demonstrates a revised Production and Cost Report effecting such a separation.

The original Production and Cost Report showed:

Pounds Production:

Plant total.....	1,812,128
Broilers.....	1,490,366
Hens.....	<u>222,404</u>
	1,712,770

Direct Materials:

Ice.....	\$ 4,530.32
Packing.....	11,390.00

Assume the following additional conditions:

Chickens were ice-packed and each day's production was shipped immediately.

Turkeys were sent to a freezer to be packaged, frozen, and stored for later shipment.

An analysis of the charges to the ice account showed:

Packing, freezing, and storing turkeys.	\$ 946.32
Costs applicable to ice-packing.....	1,284.00
Costs applicable to chilling.....	<u>2,300.00</u>
	<u>\$4,530.32</u>

The cost of packing supplies (\$11,390) applied only to chickens, \$10,102.50 applied to Broilers and \$1,287.50 applied to Hens.

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Anywhere, U. S. A.

WEEK OF March 19 —  
MONTH

PRODUCTION AND COST REPORT - *Revised*

ITEM	PLANT TOTALS	TYPE BIRD		Broilers	Hens	Turkeys
		WEIGHT CATEGORY				
PRODUCTION:						
LINE - HOURS OPERATED	352			300	32	20
SPEED PER				2 400	2 200	1 000
BIRD PRODUCTION: LINE - HOUR				720 000	70 400	20 000
CAPACITY	810 400			698 917	67 200	19 252
ACTUAL	785 369			97 07 2	95 45 2	96 26 2
PRODUCTIVITY	96 91 2			1 490 366	222 404	99 358
POUND PRODUCTION	1 812 128			94 70 2	95 24 2	96 46 2
YIELD - BIRDS	94 79 2			78 02 2	80 51 2	75 36 2
- POUNDS	78 17 2			2 252	3 475	5 350
AVERAGE WEIGHT	2 434					
PROCESSING COSTS:		RATE	PER			
LABOR - DRESSING	8 505 00	24 162	LINE-HOUR	\$ 7 248 60	\$ 773 16	\$ 483 24
Eviscerating	20 141 50	57 220	LINE-HOUR	17 166 00	1 831 10	1 144 40
PACKING	3 237 00	9 196	LINE-HOUR	2 758 80	294 28	183 92
TOTAL LABOR	31 883 50			27 173 40	2 898 54	1 811 56
OVERHEAD - TRANSPORT, IN	2 500 26	0 138	100 POUNDS	2 056 26	306 85	137 15
DRESSING	7 879 77	22 386	LINE-HOUR	6 715 70	716 35	447 72
Eviscerating	10 441 54	29 663	LINE-HOUR	8 898 98	949 30	593 26
PACKING	2 421 43	6 879	LINE-HOUR	2 063 72	220 13	137 58
TOTAL O'HEAD	23 243 00					
DIRECT MATERIALS- BIRDS	376 795 20			306 630 00	49 723 20	20 442 00
ICE	4 530 32		100 POUNDS	3 008 92	448 98	1 072 42
PACKING	11 390 00			10 102 50	1 287 50	-
TOTAL MAT'L'S	392 715 52			319 741 42	51 459 68	21 514 42
PLANT TOTALS	447 842 02					
COSTS PER POUND IN CENTS:						
LABOR - DRESSING	46 934			48 636	34 764	48 636
Eviscerating	1 11 148			1 15 180	82 332	1 15 180
PACKING	17 863			18 511	13 232	18 511
TOTAL LABOR	1 75 945			1 82 327	1 30 328	1 82 327
OVERHEAD - TRANSPORT, IN	13 797			13 797	13 797	13 804
DRESSING	43 484			45 061	32 209	45 061
Eviscerating	57 620			59 710	42 684	59 709
PACKING	13 362			13 847	09 898	13 847
TOTAL O'HEAD	1 28 264			1 32 415	98 588	1 32 421
DIRECT MATERIALS- BIRDS	20 79 297			20 57 414	22 35 715	20 57 407
ICE	25 000			20 189	20 189	1 07 935
PACKING	62 854			67 786	57 890	-
TOTAL MAT'L'S	21 67 151			21 45 389	23 13 794	21 65 342
PLANT TOTALS	24 71 360			24 60 131	25 42 710	24 80 090
SELLING						
ADMINISTRATIVE						
TOTAL COST						

Figure 42

The cost per 100 lbs. for ice chilling is therefore determined as \$2,300 ÷ 1,812,128 lbs. or \$0.12692 per 100 lbs. The cost per 100 lbs. for ice-packing is determined as \$1,284 ÷ 1,712,770 lbs. or \$0.07497 per 100 lbs. Costs for these two items would be reallocated as follows:

	<u>Pounds</u> <u>Production</u>	<u>.....Ice.....</u> <u>Chilling</u>	<u>Packing</u>	<u>Total</u>
Broilers.....	1,490,366	\$1,891.62	\$1,117.30	\$3,008.92
Hens.....	222,404	282.28	166.70	448.98
Total chickens.	1,712,770	2,173.90	1,284.00	3,457.90
Turkeys.....	99,358	126.10	946.32*	1,072.42
Total....	1,812,128	\$2,300.00	\$2,230.32	\$4,530.32

\*Actual charge for packing, freezing, and storage of turkeys.

The Production and Cost Report, as revised, is shown as figure 42.

### LOSS "LOADING" FOR UNPROFITABLE PRODUCTS

It is characteristic in the poultry processing industry, as well as in other process type industries, that unprofitable as well as profitable items within a product group, are necessarily produced. In order to obtain a proper evaluation of the effect of loss items on the profitability of a product group it is frequently desirable to bring the profits and losses of the related products together. This procedure is sometimes termed "loss loading" and is illustrated in figures 43 and 44.

Figure 43 illustrates the loss loading procedure applied to product mix 2 in the "Profitability Determination" shown in figure 41. The following are the basic elements in the procedure:

#### Loading Factors

The processing costs of each of the various products in the mix are added to "Other Costs" - selling and general and administration expenses - to arrive at the total cost. These costs are related to product sales prices to arrive at the Profit (Loss) of each product. Wings, Gizzards and Hearts, Backs, and Necks show a loss on this basis.

#### Loss Loading

The losses per pound, developed above, for Backs and Necks are multiplied by the pounds of these items per 100 pounds of birds processed to arrive at the total amounts of loss required to be absorbed. Similarly, the amount of loss to be absorbed is computed on the basis that these products would normally be expected to generate a profit (in this instance 5 percent). These losses per pound are then added to the total costs of the profitable products to arrive at revised profits.

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LOSS "LOADING" - (CUT-UP BIRD PARTS)

"LOADING" FACTORS - (IN CENTS PER POUND):

.....COSTS.....									
CUT-UP PARTS	.....PROCESSING.....			DIRECT	TOTAL	"OTHER	TOTAL	SELLING	PROFIT
	LABOR	O'HEAD	TOTAL	MATERIALS	PROCESSED	COSTS"	BEFORE	PRICES	(LOSS)
Key	A	B	C	D	E	F	G	H	J
	Note (6)		(A + B)	Note (6)	(C + D)	Note (1)	(E + F)		(H - J)
Livers.....	3.662¢	4.293¢	7.955¢	24.487¢	32.442¢	2.116¢	34.558¢	80.100¢	45.542¢
Breasts.....	3.861	4.029	7.890	25.543	33.433	1.650	35.083	49.500	14.417
Legs.....	3.727	3.805	7.532	25.488	33.020	1.573	34.593	47.100	12.507
Wings.....	3.623	3.630	7.253	25.158	32.411	1.226	33.637	26.100	(7.537)
Gizzards and hearts...	3.362	3.790	7.152	24.362	31.514	1.227	32.741	27.000	(5.741)
Backs.....	3.390	3.238	6.628	24.838	31.466	.870	32.336	7.200	(25.136)
Necks.....	3.390	3.238	6.628	24.888	31.516	.870	32.386	7.200	(25.186)

LOSS "LOADING" COMPUTATIONS - (IN CENTS PER POUND):

CUT-UP PARTS	POUNDA GE	PROFIT	NORMAL	...TO BE "LOADED"...		TOTAL	BEFORE	..TOTAL WITH "LOADING"...		PROFIT AFTER
	DISTRI- BUTION	(LOSS)	"NET"	TOTAL	BREAKEVEN	W/PROFIT	"LOADING"	BREAKEVEN	W/PROFIT	"LOADING"...
Key	K	L	M	N	P	Q	R	S	T	U
		(J)		(L + M)	(K x L)	(K x N)	(G)	(9.123¢ + R)	(9.538¢ + R)	(H - S)
Livers.....	3.0	45.542¢					34.558¢	43.681¢	44.096¢	36.419¢
Breasts.....	29.0	14.417					35.083	44.206	44.621	5.294
Legs.....	32.0	12.507					34.593	43.716	44.131	3.384
Sub-total.....	64.0		Note (2)		Note (3)	Note (4)				(M)
Wings.....	11.0	(7.537)	1.305¢	(8.842)¢	(82.907¢	97.262¢				1.305¢
Gizzard and hearts....	4.0	(5.741)	1.350	(7.091)	22.964	28.364				1.350
Backs.....	11.1	(25.136)	0.360	(25.496)	279.010	382.006				0.360
Necks.....	7.9	(25.186)	0.360	(25.546)	198.969	201.813				0.360
Sub-total.....	34.0				583.850¢	610.445¢				
TOTAL.....	98.0	Note (5) \$3.71			9.123¢	9.538¢				

NOTES:

- (1) Consists of: Selling Expense as 1.5% of Selling Price plus General and Administration Expense as 11.5% of Labor and Overhead costs.
- (2) 5% of Selling Price.
- (3)  $583.850¢ + 64.0 \text{ lbs.} = 9.123¢$
- (4)  $610.445¢ + 64.0 \text{ lbs.} = 9.538¢$
- (5) Result of a cumulative multiplication of Columns K and L, K and U, or K and V, and represents the overall profit of each 100 lb. lot of eviscerated birds cut up and sold.

- (6) Processing cost data for this illustration begin with costs computed on Figures 29 and 30, and adjusted to 17¢ per lb. live weight birds, and for the following packing cost factors:

Parts	Lbs/hour	Materials/Lb
Livers.....	100	.875¢
Breasts.....	140	.905
Legs.....	160	.850
Wings.....	180	.520
Gizzards and hearts....	125	.750
Backs.....	250	.200
Necks.....	250	.250

Figure 44 illustrates similar factors and computations applied to the data pertaining to the various grades of broilers as reported on the Plant Report shown as figure 7.

The results of the computations in figure 43 indicate an overall profitability of \$3.71 per hundred pounds of processed birds. The overall profitability is computed by multiplying cumulatively the pounds of each part by its corresponding cents per pound profit or (loss). The loading of losses onto the profitable parts does not change those parts into (loss) items. However, in figure 44, the results indicate an overall loss of \$621.05. Such a situation can be corrected by such managerial actions as reducing the percentage of "undergrades."

Once reliable data pertaining to a given product group are available, management may then predict the profitability of that group. Such data include the poundage of each of the parts available per hundred pounds of birds processed, the percentage of undergrades anticipated from a given classification of birds, the average processing costs, anticipated selling and general and administration expenses, and the like.

These two illustrations demonstrate further that careful accounting analysis can serve management by suggesting areas requiring correction or improvement.

#### FLEET TRANSPORTATION COSTS

Some companies own and operate trucks for hauling live birds to processing plants, hauling processed products to outlying points, or both. The extent of detail in accounting for fleet operations may vary. Nevertheless, the inclusion of all operating costs is of prime importance for control purposes and to make such data useful in decisions to replace fleet equipment or to engage outside truckers.

A Monthly Fleet Operating Report is illustrated as figure 45. The illustrated report covers a fleet of five trucks for hauling live birds to the plant and a fleet of six trucks for hauling processed products from the plant. Basically, the monthly report contains three types of operating charges: direct charges, allocated charges - payroll, and allocated charges - ton-miles.

##### Direct Charges

"Direct Charges," those overhead expenses which can be charged directly either to the "Transport-In" or "Transport-Out" sections of the Transportation department, are grouped in the first section of the report. Wherever possible, overhead expenses should be charged direct.

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LOSS "LOADING" - (BROILERS)

"LOADING" FACTORS - (IN CENTS PER POUND):

WHOLE BIRDS	.....COSTS.....					"OTHER COSTS"	TOTAL BEFORE "LOADING"	SELLING PRICES	PROFIT (LOSS)
	LABOR	PROCESSING O'HEAD	TOTAL	DIRECT MATERIALS	TOTAL PROCESSED				
Key -	A	B	C (A + B)	D	E (C + D)	F Note (1)	G (E + F)	H	J (H - G)
Grade A )						0.744¢	25.381¢	25.500¢	0.119¢
Grade B )	1.823¢	1.324¢	3.147¢	21.480¢	24.637¢	0.726	25.363	24.250	(1.113)
Grade C )						0.662	25.299	20.000	(5.299)

LOSS "LOADING" COMPUTATIONS - (IN CENTS PER POUND):

BIRD GRADES	POUNDRAGE DISTRIBUTION	PROFIT (LOSS)	NORMAL "NET"	TOTAL	....TO BE "LOADED"....		TOTAL BEFORE "LOADING"	....TOTAL WITH "LOADING"....		PROFIT AFTER "LOADING"	
					BREAKEVEN	W/PROFIT		BREAKEVEN	W/PROFIT	BREAKEVEN	W/PROFIT
Key -	K	L (J)	M	N (L + M)	P (K x L)	Q (K x N)	R (G)	S (R + 0.283)	T (R + 0.411)	U (H - S)	V (H - T)
Grade A	377,336	0.119¢	Note (2)		Note (3)	Note (4)	25.381¢	25.664¢	25.792	(0.164)¢	(0.292)¢
Grade B	27,700	(1.113)	1.213¢	(2.326)¢	30,830.10¢	64,430.20¢					1.213
Grade C	14,376	(5.299)	1,000¢	(6.299)¢	76,178.42	90,554.42					1.000
Sub-total	42,076				107,008.52¢	154,984.62¢					
Total	419,412	\$(621.05)		Average -	0.283¢	0.411¢					
		Note (5)									

NOTES:

- (1) Consists of: Selling expense as 1.5% of Selling Price plus General and Administration Expense as 11.5% of Labor and Overhead costs.
- (2) 5.0% of Selling Price.
- (3) 107,008.52¢ + 377,336 lbs = 0.283¢
- (4) 154,984.62¢ + 377,336 lbs = 0.411¢
- (5) Results of a cumulative multiplication of the elements of columns K and L.

Figure 44



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FLEET OPERATING REPORT  
Month of March, 19

	TOTAL	TRANSPORT- IN	TRANSPORT- OUT
<b>DIRECT CHARGES:</b>			
Wages - Indirect labor.....	\$2,490.50	\$1,025.00	\$1,465.50
Overtime premium.....	133.30	22.80	110.50
Shift premium.....	52.50	52.50	
Meals and lodging.....	705.10		705.10
Lubricants.....	94.05	51.25	42.80
Auto and truck fuels.....	2,771.40	1,142.50	1,628.90
Telephone and telegraph.....	165.25		165.25
Sub-total.....	6,412.10	2,294.05	4,118.05
<b>ALLOCATED CHARGES - Payroll:</b>			
Salaries - Supervision.....	785.00		
Salaries - Clerical.....	235.50		
Wages - Indirect labor.....	260.20		
Vacation pay.....	110.65		
Compensation insurance.....	62.85		
F.O.A.B. taxes.....	42.80		
Unemployment benefit taxes.....	46.20		
Sub-total.....	1,543.20	635.80	907.40
<b>ALLOCATED CHARGES - Ton-Mile:</b>			
Departmental supplies.....	286.50		
Repairs and maintenance - Bldg.....	185.00		
Repairs and maintenance - Equip.....	362.50		
Charges from other Plant Accounts.....	482.60		
Sub-total.....	1,316.60	367.33	949.27
<b>DEPARTMENT TOTAL.....</b>	<b>\$9,271.90</b>	<b>\$3,297.18</b>	<b>\$5,974.72</b>
 Ton-Miles hauled.....	 114,301	 31,867	 82,434
Total Per Ton-Mile.....	\$.0811	\$.01035	\$.00725
<u>ALLOCATION DATA</u>			
Wages - Indirect.....	2,490.50	1,025.00	1,465.50
%.....	100.0	41.2	58.8
Ton-miles.....	114,301	31,867	82,434
%.....	100.0	27.9	72.1
Tons hauled.....	281.6	191.1	90.5
Miles hauled.....	82,931	21,988	60,943

Figure 45

## Allocated Charges

In other cases, overhead accounts can be charged direct to the Transportation department, but segregation of the direct charges to either Transport-In or Transport-Out is impractical. For such expenses, the proration is made by using the percentages developed at the bottom of the Monthly Fleet Operating Report under "Allocation Data."

Allocated charges are segregated on the report into two groups - charges allocated on the basis of payroll and other charges allocated on a ton-mile basis.

The second section of overhead charges on the report, Allocated Charges - Payroll, is prorated between Transport-In and Transport-Out on the basis of the indirect labor included in the direct charges - in this example, wages paid to truck drivers, bird collectors, and truck helpers. Included in this second section of overhead accounts is an item of Wages - Indirect labor or wages which could not be segregated between Transport-In and Transport-Out. In this illustration, the item represents wages paid to a mechanic who kept no time record. Had this mechanic kept a detailed record of time worked on each truck, his wages would have been included in the first section, Direct Charges.

In the illustration, the total of \$1,543.20 for "Allocated Charges - Payroll" is allocated on the basis of 41.2% and 58.8%. Each account within the group could have been allocated by these percentages if individual expense allocation had been desired.

The third section of overhead expenses on figure 45 is Allocated Charges - Ton-Mile. These expenses are prorated monthly on the basis of ton-miles as shown under Allocation Data at the bottom of the report. Except for the "Other Plant Accounts" the overhead accounts are chargeable directly to the Transportation Department but direct segregation between Transport-In and Transport-Out is impractical. The amount of \$482.60, charged to the Transportation Department from other plant accounts in this illustration, represents the cost of heat, light, water, and the many other indirect costs applicable to the Transportation Department.

## Allocation Data

The Allocation Data shown at the bottom of figure 45 are obtained from various sources. Indirect wages are obtained from the first line of the report itself; the percentages are simple computations. The percentages of ton-miles are obtained monthly from data contained on "Daily Hauling Reports" (figure 46) for hauling live birds to the plant and the "Trip Report" (figure 47) for hauling processed products from the plant. The ton-miles for hauling birds to the plant are determined for each truck daily. The ton-miles for hauling processed products from the plant are determined for each trip by each truck. For example, the ton-miles are for the "Daily Hauling Report" illustrated is calculated from 122 miles times 6,292 pounds divided by 2,000 or 383.8; the ton-miles for the "Trip Report" illustrated is calculated from 1,485 miles times 4,285 pounds divided by 2,000 or

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**DAILY HAULING REPORT**

TRUCK NO. 2                      SPEEDOMETER - END 35250

DATE 3/10/-                      SPEEDOMETER - BEGIN 35128

DRIVER Q. Roe                      MILEAGE 122

TRIP NO.	TYPE BIRD	NO. BIRDS	POUNDS	AVGE. WT.
1	Braillers	450	1352	3.00
2	"	400	1198	3.00
3	"	380	1052	2.77
4	"	420	1265	3.01
5	Hens	385	1425	3.70
<b>TOTALS</b>		<b>2035</b>	<b>6292</b>	

CHECKED BY: M. Johnson

Figure 46

3,181.6. The ton-miles are then summarized for the month for each truck and in total for "Transport-In" and "Transport-Out" on the worksheet illustrated in figure 48. The balance of the information under "Allocation Data" is self-explanatory.

Several ways are available for effecting control over transportation costs. For the small and medium-sized company without a budgetary control program, a "target" ton-mile cost can be established and used in measuring periodic truck operations. The larger company can extend the budgetary control program, in which case Transport-In will be based on activity of the Dressing Department and Transport-Out will be based upon activity in the Packaging Department.

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TRIP REPORT

TRUCK NO.	<u>12</u>	SPEEDOMETER IN	<u>35 186</u>
DATE IN	<u>3/19/-</u>	SPEEDOMETER OUT	<u>33 701</u>
DATE OUT	<u>3/14/-</u>	TRIP MILEAGE	<u>1 486</u>
DAYS OUT	<u>5</u>	POUNDS OUT	<u>4 285</u>
DRIVER	<u>John White</u>		
LOG			

Figure 47

ACCOUNTING FOR COMPANY-OWNED FACILITIES

Some large companies own separate facilities for power, water, ice, sewerage disposal, etc. As in the case of fleet transportation costs, the extent of detail in accounting for operations of the facilities may vary. Similarly, the accounting and reporting procedures will follow the same pattern as those outlined for fleet transportation costs.

In measuring and controlling these activities, the total, including allocated expenses, should be carried to an appropriate account provided on the Plant Overhead Allocation Worksheet, figure 9. Ice may be treated either as a direct material or as an item of overhead expense.

FANCY POULTRY CO.  
ANYWHERE, U.S.A.

March, 19\_\_

TRUCKING SUMMARY WORKSHEET  
TRANSPORT IN

<u>Truck No.</u>	<u>Days Operated</u>	<u>Ton-Miles</u>	<u>Average Per Day</u>
1	19	7,315	385
2	20	6,920	346
3	16	5,792	362
4	11	3,608	328
5	<u>21</u>	<u>8,232</u>	<u>392</u>
TOTAL	<u>87</u>	<u>31,867</u>	<u>366</u>

TRANSPORT OUT

<u>Truck No.</u>	<u>Trips Made</u>	<u>Ton-Miles</u>	<u>Average Per Day</u>
11	5	16,225	3,245
12	6	17,376	2,896
13	3	9,138	3,046
14	4	10,740	2,685
15	5	17,915	3,583
16	<u>6</u>	<u>11,040</u>	<u>1,840</u>
TOTAL	<u>29</u>	<u>82,434</u>	<u>2,843</u>

Figure 48

## APPENDIX 7

### MARKETING AND DISTRIBUTION COSTS

Emphasis in this Guide has been placed upon processing cost determination and control. However, the determination and control of marketing and distribution costs may be equally important. Management may need to measure and control such costs in terms of distribution method and outlet, as well as in product profitability.

Marketing and distribution costs include expenditures for advertising, promotion, sales solicitation, sales administration, storage, order-filling, shipping, billing, and collecting. Control over these costs is best effected by periodic analysis so conducted as to support sound management decisions pertaining to marketing effort. Such analysis goes beyond the normal day-to-day accounting practices and requires periodic segregation of expenses between products, product lines, territories, customers, customer classes, distribution channels, types of orders, size of orders, and other classifications of significance.

The manual does not present any forms or procedures for handling marketing and distribution costs. Selling methods and distribution patterns are so numerous that a detailed design of a type of analysis to satisfy the needs of each would be too voluminous. Further, any such analysis would follow, basically, the pattern used in analyzing processing or any other type of costs.

A direct result of the growing magnitude of this problem has been the great amount of literature on the subject. In addition to the literature which has been published privately, several documents are available for a small charge from The Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Among those available are several published by The Department of Commerce in the Distribution Cost Studies series, Domestic Commerce series, and the Miscellaneous series. The Small Business Administration has also published several documents on this subject in the Small Business Management series.

APPENDIX 8

TABLE OF RECOMMENDED BIRD CATEGORIES

The procedures described in this manual demonstrate the desirability of segregating processing costs by type and weight category of bird. The table below is recommended for guidance in establishing categories to suit the needs of individual processors. A further breakdown may be desired or suggested categories may be combined.

Ready-to-Cook Poultry

<u>Kinds and classes</u>	<u>Weight Range per Carcass</u>
Broilers	- 1.9 pounds 2.0 - 2.4 pounds 2.5 - 2.9 pounds 3.0 - pounds
Mature Chickens (Roasters, Hens, Cocks)	- 3.9 pounds 4.0 - pounds
Turkeys	- 7.9 pounds 8.0 -15.9 pounds 16.0 -23.9 pounds 24.0 - pounds